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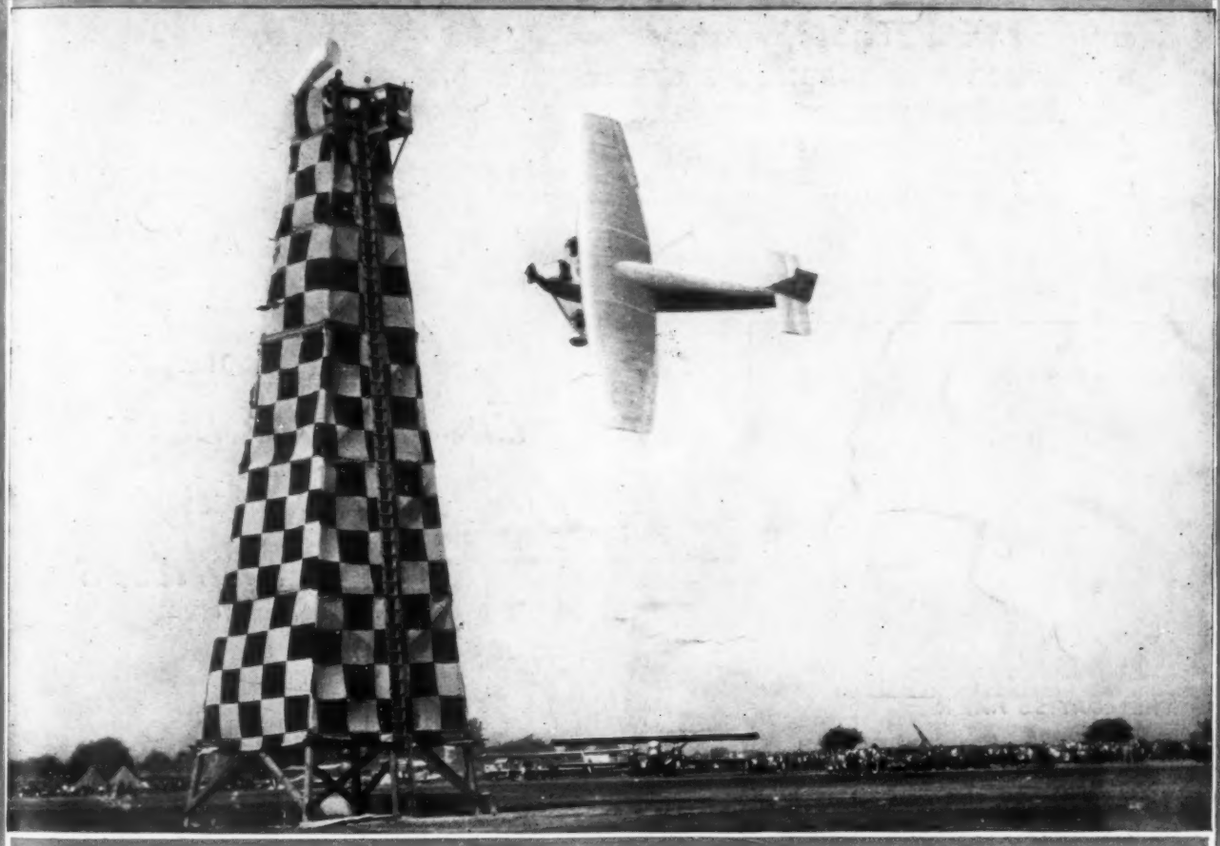

The Ford 3-engine plane rounding the home pylon in the Detroit News Race

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VOLUME XXI NUMBER 12

SPECIAL FEATURES

THE NATIONAL AIR RACES
A FLYING TOUR OF EUROPE—LESTER D. GARDNER
AERO. CHAMBER OF COMMERCE ELECTS OFFICERS

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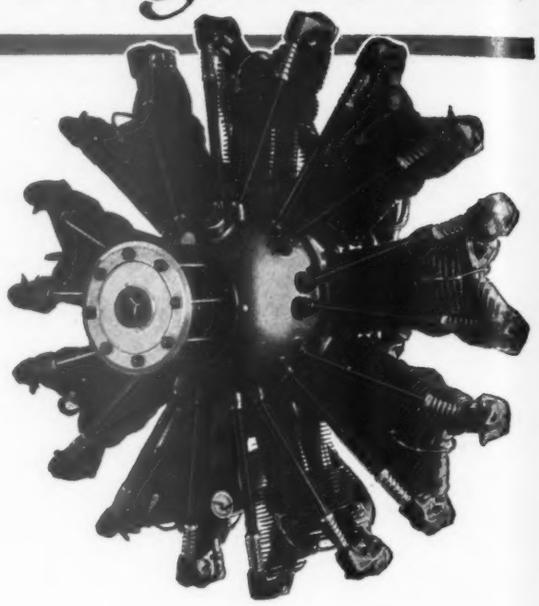

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Published every Monday

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VOL. XXI SEPTEMBER 20, 1926 No. 12

Merchandising Airplanes

WITH THE very rapidly growing popularity of flying among the general public for pleasure and business, the question of merchandising aircraft is becoming a problem of more and more importance to the aircraft industry. In the past it has been rather a problem of production, the requirements being the design and manufacture of airplanes suitable to private business and pleasure flying. This problem now has been satisfactorily overcome. The industry is producing quite a number of small low powered airplanes admirably suited to the requirements of private owners.

The question before the manufacturer at this time is the next step, namely the merchandising of aircraft. There is a science of selling, the stipulations of which apply equally well to aircraft as to all other forms of mechanical utility products. It would seem that the aircraft constructor, in his problem of merchandising, can gain much from the experiences of the automobile manufacturers when they, some 15 or 20 years ago, were confronted with the same problems of merchandising. The automobile industry as a whole had to demonstrate to the public that the latter needed the products of the former in the carrying on of business and the pursuit of pleasure. This process took some years and called for considerable foresight in the expenditure of money by those members of the automobile industry who actually pioneered in this public educational work.

Perhaps the most important individual agent in the aviation field for the education of the public to the possibilities of private flying is the short pleasure hop. Only by persuading the public into the air can people be educated to see the possibilities of their own individual air requirements.

A tremendous amount of pioneer work has already been carried out in this respect by air operators throughout the country. There are a large number of aerial service companies who are not manufacturers of aircraft and to these operators the aircraft manufacturers owe a considerable debt of gratitude for the educational work they are carrying on.

This pioneering work is by no means concluded, however. There is yet a great deal of educational work still to be done before the general public becomes thoroughly airminded. The short pleasure hop is still the best means toward this end. Yet the public is by now sufficiently accustomed to seeing airplanes to decline to pay large fees for pleasure flights. The business of aerial joy riding is still a prosperous one and air operators and manufacturers of airplanes who can make joyriding cheap will not only be building up prosperity for the aircraft business of the future but will, in the meantime, be doing a good business themselves.

Engine Interchangeability

ONE OF the most interesting incidents of the Philadelphia air races was the speed with which the Pitcairn Co. took out the C-6 engine in their racer and replaced it by an OX-5. The change required only a little more than half an hour and though there were quite a few men on the job the plane was new and with practice the same or better time could probably be made with fewer men. In Europe, ease of engine change has become almost standard practice on the commercial airliners but the purpose has been rather to facilitate repair work than for use in actual operations.

In this country commercial air transportation has only just begun and while the advisability of an engine mount which allows of quick changes is recognized it has not in practice been very thoroughly worked out. It will probably be found that airplane engines, like locomotives, give better service if they are not run too long at a stretch without being thoroughly checked. The planes themselves, however, can fly long distances without being gone over. On the transcontinental route and other long lines it would be advantageous if the same plane could fly right through avoiding the necessity of changing baggage and passengers. In passenger planes of the type of the Wright-Bellanca, the Fokker and the Fairchild where the pilot sits behind the engine it would be comparatively easy to have one half of the instrument board and the oil reservoir attached directly to the engine. This would mean that the four engine mount pins and the gasoline line would be the only connections which would have to be broken. With a good ground organization and the proper facilities such a change could probably be made in less than ten minutes. The time during the changing of the engines could be spent in filling the gasoline tanks, inspecting the plane and taking on or dropping freight.

The change in the Pitcairn plane was made so that it could be entered in a race for engines of smaller displacement. This suggests the idea that in commercial work ability to change easily from a small to a large engine might be of considerable value. Flying across the prairies of the Middle West does not require the reserve of power or the same type of engine that must be used in crossing the Rocky Mountains. As planes carry an increased percentage of their own weight in useful load it may even be possible to use engines of lower power on days when the load is very light.

A Flying Tour of Europe

By LESTER D. GARDNER

(SECOND PART)

THE AIR traveller who chooses Berlin as a central point has routes in every direction to choose from. The time table of the German air lines is the most comprehensive and detailed of any published. The service at the airports is standardized and of the dozen German airports visited little difference could be noted in the management or operation.

Berlin to Copenhagen

A trip to Copenhagen in less than four hours shows how air transport can afford a genuine service between capitals that are normally twelve hours apart. The route is laid so as to cross the water between the islands at the narrowest part. At five different places the big three-engined Junkers cross channels, bays or harbors, one fifteen miles across. The airport at Copenhagen is the terminal of the Danish Airline also and is located on the sea. It has every facility, it is one of the most picturesque flying fields in Europe. The Danish line operates a service to Paris with the cooperation of the Farman Air Line and will use three engined Jabiru Farman planes when they are available. At present they are using single engined Fokkers. The line to Berlin operated by the Luft Hansa is also a cooperative line and while the planes are German the terminal is managed by the Danish company.

Stockholm to Berlin

A night train ride from Malmo which is across the fifteen mile strait that separates Denmark from Sweden, brings the traveller to Stockholm, the most northerly air terminus in Europe. Here the A. B. Aerotransport, the Swedish airline has its airport and with the Finnish Air Service Company maintains a route across Baltic Sea to Helsingsfors and Reval. The line of Dornier Wal seaplanes operated south to Stettin from Stockholm by the Deutsche Luft Hansa is one of the most famous lines in Europe as it has the longest water route that is operated. The view after leaving Stockholm of the thousands of inland lakes that dot the Swedish interior and the islands that border the coast is a sight that gives this flying trip a picturesqueness that is incomparable. Going out to sea in a comfortable large twin-engined seaplane that skims above the surface of the water at only a few feet at a speed of ninety miles an hour when the wind is right, gives all the thrills of fast motor boating with none of the roughness. A landing is made, en route, at Kalmar, Sweden and then the trip is continued south to Stettin where connection is made for Berlin.

A trip that covers the great manufacturing region can be made from Berlin by way of Halle and then east to Cassel. From here the planes fly directly over the Ruhr Basin that resembles from the air nothing as much a Pittsburgh, with a forest of chimneys and huge industrial works of all kinds. Essen, Dortmund and Dusseldorf are the centers that this line connect with Berlin.

South to Munich and Over the Alps

A flight to Munich from Berlin is again along one of the main trunk lines, as it connects the Swiss, Hungarian and South German airlines with the northern air routes. The scenery in Bavaria with the beautiful Danube, and the old cities of Nuremberg and Bayreuth draws much air tourist traffic. Munich, again, is one of the natural traffic centers, as it is on the border of the Alps that prevent further extensions southward. Munich is on the main air line of Southern Europe which extends from Lyons, France to Vienna and Budapest.

Of course everyone who wants to have the greatest thrill of an air tour of Europe takes the round trip from Munich to Innsbruck with the return trip directly over the Alps. The flight up the valley to the famous Austrian Alpine resort city is one of those scenic trips that is never to be forgotten. And when in the afternoon the single engined Fokker climbs to 9000 feet and then flies directly over the snow capped peaks of the Tyrolian Alps, the fortunate visitor has an air

The Model Airport of Waalhaven at Rotterdam, Holland

ride that will always stand out in his memory as the one flight that combines everything that can be compressed into an hour of wonderment.

To Budapest, Hungary's Beautiful Capital

The other trips from Munich also have picturesque features. To fly across the Austrian frontier parallel to the eastern range of the Alps and along the ever widening Danube to the beautiful circular city of Vienna is to follow one of the routes that will eventually become an aerial highway to connect Western Europe and the Balkan States. Aspern Airport at Vienna is another of those centers that has, through the last few years, grown into one of the large aerial centers of central Europe. From here the Hungarian air line flies across Hungary to the ever attractive Budapest, the dual capital that is situated on both sides of the Danube. The airscape of the Hungarian capital from the air is most impressive owing to the citadel like prominence of the older Buda with its castle and public buildings. At present, the seaplane line that operated on the Danube between Vienna and Budapest is not running.

Friedrichshafen and Switzerland

From Vienna the line to Zurich gives the air traveller an opportunity to connect with the two Swiss airlines. The flight itself has an interest to those connected with aeronautics entirely apart from the scenic features of the trip, for Friedrichshafen is flown over. The two large Zeppelin hangars still stand empty and internationalised, whatever that may mean. The factory is as idle as a barn before the harvest season. The Dornier plant where the Doriner Wal, Komet and Dolphin are built is to be seen on the edge of Lake Constance. From here to Zurich is only a short flight and Lake Zurich, the second of the Swiss lakes, is flown over, if the pilot has to make a slow descent to land at Dubendorf airport.

From Zurich the Ad Astra Line crosses Switzerland to Geneva, flying over Berne and landing at Lausanne on the shore of Lake Geneva. Here again the air traveller is afforded views of mountains and lakes that are famed all over the world for their charm. The single engined Junkers equipment is used regularly.

At Zurich, connection may be made with the new Balair Air Traffic Co. that is using the Fokker equipment that it purchased from the K.L.M. line early in the year. This line flies from Frankfurt in Germany to Basle in Switzerland, and continues to Geneva and Lyons, France where it connects with Air Union line that goes north to Paris and south to Marseilles. By this important link it is now possible to fly from Southern Germany and Switzerland directly to Spain and northern Africa.

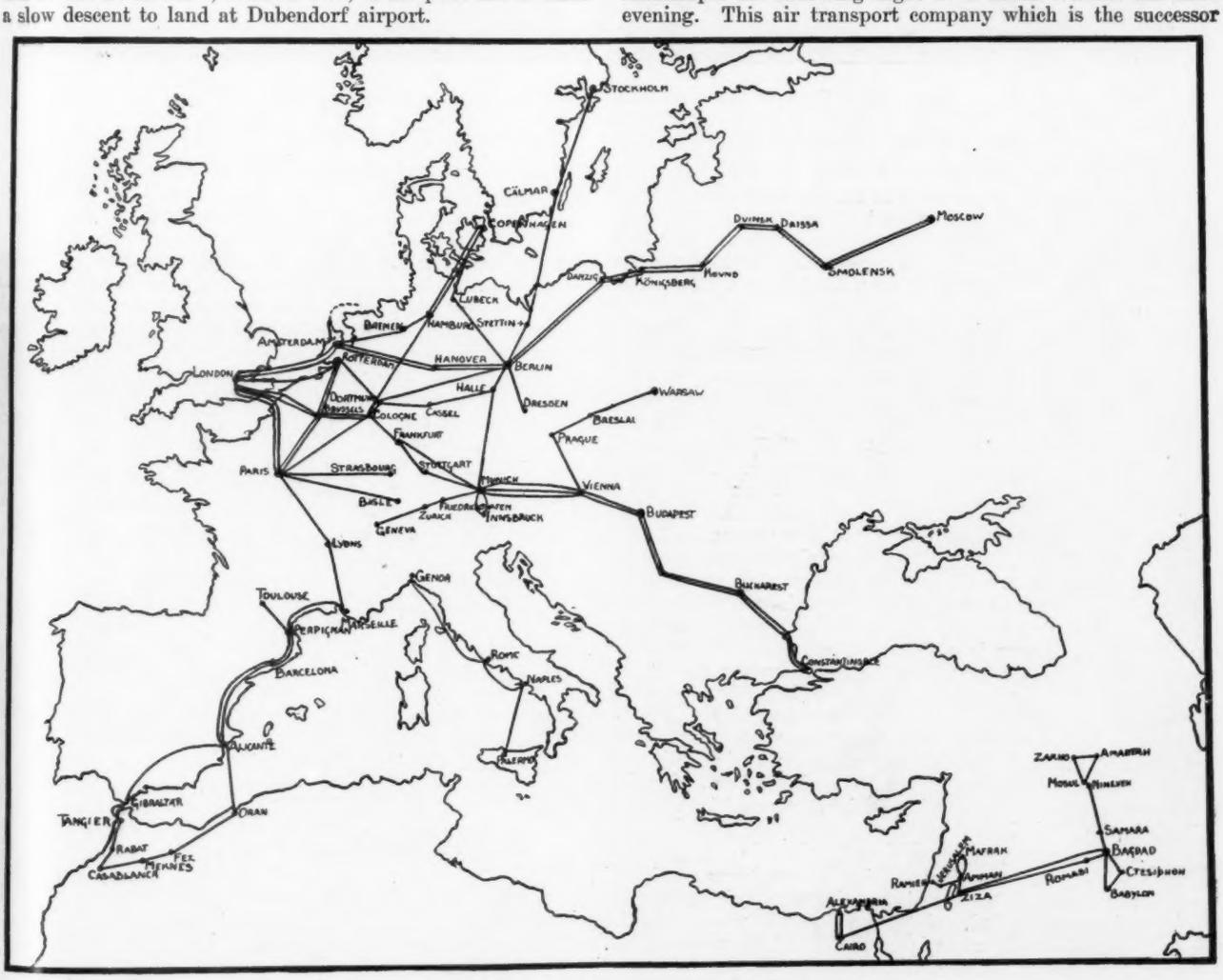
More Luft Hansa Air Lines

From Munich, also, there runs a Luft Hansa airplane northwest which serves all the cities in this district as far as Cologne. Stuttgart, Mannheim, Frankfurt as well as Baden Baden with its adjacent Black Forest district may all be reached by direct and branch air routes that cross Germany at its most southwesterly corner.

It has been possible to mention only a few of the more important lines of the Deutsche Luft Hansa, as it takes weeks to cover all the ramifications that have spread all over the German republic. The main routes however have been mentioned.

The Great French Trans Continental Air Line

Returning to Paris, the next trip will be over the important C.I.D.N.A. line from its starting point. It is now possible to board a plane at Le Bourget near Paris and be in Constantinople the following night or to reach Warsaw the same evening. This air transport company which is the successor



Air routes covered by the European Air Tour of L. D. Gardner

The Prague airport, Czechoslovakia, one of Europe's finest commercial air terminals. It is a government owned field, available for civil flying and is, in dimensions, 1600 yd. by 1000 yd. Among the air lines which pass through or emanate from this airport are: London-Cologne; Prague-Constantinople; Paris-Prague-Warsaw; Prague-Budapest-Bucarest; Prague-Bratislava; Prague-Vienna.

of the Franco-Roumaine line, has one of the most important routes in the world. It operates in ten different countries and its traffic is the most international of any line in existance. Starting from Paris, its first leg to the east is directly over the battlefield region that was so successfully held by the American troops. Cheteau Thierry, Chalons, St. Mihiel and Nancy are to be seen before Strasbourg is reached. From here, since the new agreement has been made between Germany and France, the line crosses Germany with a stop at Nuremberg on its way to Prague in Czechoslavakia.

Czechoslovakia, an Aerial Hub

A stop at the capital of this new republic is well worth while as the aeronautical development that is proceeding here is one of the most interesting in Europe. The airport is famous for its large area and spacious hangars. Here, also, is the home of the Czechoslovakia States Air line that operates several air routes throughout this progressive country. The C.I.D.N.A. route to Warsaw makes a stop at Breslau and here may be seen one of the most perfect examples of the country club idea as applied to an airport, as the main building has every facility of a club, including an excellent restaurant. Warsaw is reached by a route that takes the traveller over Posen, which has a very ancient sound, but from the air looks more like an American city than any other city in Europe, owing to the rectangular red brick buildings that line the streets. Warsaw uses a very large military airdrome for its airport and here again Polish air lines extend their routes to Cracow and Lemberg. Leaving Warsaw early in the morning it is now possible to reach Paris in time for dinner.

Bucharest and Constantinople

The C.I.D.N.A. line after reaching Prague turns south and commences one of the most interesting routes in the world. Vienna is soon reached and the next stop is made at Budapest. From here the route is over some of the most difficult flying territory in Europe. The Bleriot Spads which constitute the standard equipment of this company carry passengers and mail and goods all in the same small cabin, varying the amount of each as the traffic permits. The planes are always crowded and often two are used when the passengers are available. After a stop at Pancevo, the airport nearest Belgrade, the Transylvanian Alps are crossed and no one who has ever flown this hundred miles of rugged wooded mountains ever regards it with other than awe. The gorges cut by the Danube River are about the only possible landing places, but when the large Roumanian plain is reached the trip to Bucharest is comparatively easy flying.

At Bucharest, large permanent hangars are being erected to serve the new Roumanian air lines that have recently opened to give air transport to this prosperous Balkan country. No one who has visited this attractive city will ever fail to praise its charming hospitable people. Leaving Bucharest the flight to Constantinople is filled with surprises. First, the Bulgarian countryside with the wild Balkan mountains and valleys is so desolate and forbidding that it is a welcome sight to reach the Black Sea and fly along its shores for many miles. It is much like the Atlantic coast where rocks abound. When Turkey is reached, a sudden turn to the south is required because the peninsula on which Constantinople is situated is forbidden territory for aircraft. The crossing of this very barren and hilly stretch soon brings the Sea of Marmora into sight and when it is reached the plane may not approach nearer than a mile from shore. St. Stefano, the airport on the Bosphorus is the terminus of the long French air line and a drive of ten miles brings the tired air traveller to the city that spreads itself on both sides of the Golden Horn. The Turkish government is trying to stimulate the interest of the public in aircraft by holding a lottery for the purchase of military airplanes. Banners across the streets, and posters everywhere give the impression that the awakening of Turkey to the value of aerial defense is very real and determined.

The other important air line that connects Eastern and Western Europe is the Duraluft that brings Moscow only a short fourteen hours from Berlin instead of fifty-six by train. This company which is owned, half by the Deutche

Luft Hansa and half by the Soviet Russian government, flies its own planes from Koenigsberg in East Prussia, taking passengers and mail from the German plane that leaves Berlin at two in the morning and which arrives at Koenigsberg at seven.

The night flight of this trip from Berlin is undoubtedly one of the unique flying experiences in the world for it is the only night passenger service that is in operation. The passengers drive out to Templehofer Field in Berlin and find a comfortable waiting room in which to rest until the big three-engined Junkers plane is ready to start. The hangars and field are brilliantly illuminated and the sight of dozens of metal aircraft in the large hangars shining with their aluminum covering is a sight not to be seen anywhere else. After the engines are tuned up, the passengers take their places in the cabin which is well lighted also. The field lights are then lit and the plane takes the air just as unceremoniously as it does in the daytime. Once in the air, the lights are turned off so that Berlin can be seen by night. The thousands of street lights give the impression of a minature city. The headlights on moving automobiles and a few beer gardens add to the illumination. The radio operator can be heard calling his station at the field. Soon the city is left behind and the passengers settle themselves in comfortable positions for a short hour's sleep, as there are no ground lights to look for or other points of interest to be seen.

Night Flying de Lux

In this latitude, daybreak comes at about three o'clock, so that those who wish to see the sunrise do not get much time to doze. At several thousand feet it becomes light much before the ground below is to be seen so that the experience is one that keeps most of the passengers watching the increasing twilight creep over the landscape. As far north as this, the twilight is very short and hardly before it can be realized it is daylight and the night flying is over. This night flight has become world famous, and many have thought that it required a very complete installation of night lights such as are used in this country for the night air mail. As the darkness only lasts for about an hour, this is unnecessary. Night landing lights under the wings give all the precautionary lighting that is necessary and the three engines are sufficient to take care of finding an emergency landing place if necessary. The voice-radio installation keeps the plane in touch with its home station so that at all times its location is known.

With the coming of the morning sun, the Baltic Sea is soon to be seen to the North and those with maps are trying to locate the frontier of the Polish Corridor which separates Germany proper from East Prussia. Until recently, it was not permitted for German aircraft to fly over this stretch of Polish territory and a detour to sea had to be made to reach the free city of Danzig. Now however a direct route is permitted and the night travellers soon find themselves enjoying a most welcome breakfast, at Langfuhr, the airport that is a few miles from Danzig. After a half hour's rest, the trip is continued to Konigsberg, flying principally over water and a long spit of land that creates a large inland bay.

From Koenigsberg to Moscow

At Koenigsberg, one of the most completely equipped airports in Europe is to be found. It was one of the earliest modern flying fields and much of the recent development has been patterned after this airport. Here a change is made to the single engined Fokker with its well kept but early type Rolls Royce engine. The Russian pilot and mechanic prepare their machine and soon the passenger is on his way to Russia. One difference is noticed at once, the reason for which becomes apparent later; the mechanic sits with the passengers and from time to time lifts an apron in front of the cabin and adjusts the engine which is in full sight. In a later article, the interesting details of this trip will be described but for the purpose of this preliminary sketch of the main air lines of Europe a meagre account will be all that can be given. Owing to certain international difficulties a detour has to be made around Polish territory and small stretches of Latvia and Lithuania are flown over. Usually a stop is made at Kowno but owing to the excessively wet season a through flight was made to Smolensk, the mail being dropped on the field at the Lithuanian city.

Russian Secrecy

Before Smolensk was reached, the mechanic drew side curtains over the windows on both sides of the plane so that the passengers could not see the military field at which a landing is made. This appeared very unnecessary as from the ground the entire layout of the station could be seen. Again on taking off the same thing occurred. The Russian countryside over which the route is flown is without cities but the

Night flying planes at Templehofer Field, Berlin (Three-engine Junkers)

small villages give a very distinct impression of the poverty of the peasant classes.

At six-thirty, the capital of Russia is reached and in a more specialised article the details of the field and the aviation activities will be given. For the present, the general outline of the flight must serve. Soon, it is planned to have reclining chairs that may be used as berths on the planes for this route, a convenience that will add much to the comfort of the passengers. Also, within a year the Soviet capital will become a way station on a much more extensive line through Soviet Russia and Siberia which will have its terminus at Pekin. One of the important points to be noted is that during the summer months when flying conditions are good, it is possible to fly with daylight twenty hours a day. With comfortable chairs that will permit of sleeping, the trip to Pekin will be easily made in five or six days.

Radiating from Moscow, there are several Russian air lines in regular operation. They run to the South and are to be extended next year. If it were not for the hard winter weather, the aircraft development in Russia would have no limitations, as here is to be found every requirement for the successful operation of air lines, with the possible exception of heavy traffic.

(To be continued)

Lieut. Cyrus K. Bettis

It is with great regret that it becomes necessary to report the death of Lieut. Cyrus Bettis, Air Corps, who died on Aug. 31 as a result of injuries sustained in an accident on Aug. 23.

Lieutenant Bettis, while flying from Philadelphia to Selfridge Field, in company with two other Air Corps pilots, lost his way in a heavy fog, and crashed into a mountain

Lieut. Cyrus K. Bettis

side near Bellefonte, Pa. He sustained severe injuries but crawled for six miles from the scene of the accident, where he was found and taken to a hospital at Bellefonte. On Aug. 26, he was transported by airplane from Bellefonte to Walter Reed General Hospital, Washington, D. C. for treatment. His condition at the time gave hope of early recovery, but complications, which developed on Aug. 31, proved fatal.

Lieutenant Cyrus K. Bettis, Air Corps, was born at Carsonville, Mich., Jan. 2, 1893. He entered the military service as a private, aviation section, Signal Corps, Jan. 25, 1918. He was made Second Lieutenant, Air Service, temporary rank, Sept. 11, 1918 and on July 1, 1920 was commissioned Second Lieutenant, Air Service, Regular Army. He was promoted to First Lieutenant, on the same date. He had considerable experience as a pilot on the Mexican border patrol during the World War, and later served two years in the Philippine Islands. His last station was the First Pursuit Group, Selfridge Field, Mt. Clemens, Mich.

Lieutenant Bettis was one of the Army's most outstanding pilots, among his most notable achievements being the winning of the John L. Mitchell Trophy in the National Air Races, Dayton, Ohio, in 1924, in which he made an average speed of 173.43 m.p.h. In 1925, he was the winner of the Pulitzer Trophy at the National Air Races, held at Mitchel Field, L. I., making an average speed of 248.975 m.p.h. In 1926, Lieutenant Bettis and Lieutenant James H. Doolittle, winner of the Schneider Cup Race, for 1925, were awarded jointly the Clarence Mackay Trophy for the most outstanding aerial performance during 1925.

In the death of Lieutenant Bettis, the Air Corps and the country have sustained a severe loss.

Lieut. Harmon J. Norton

While practicing for the Schneider Cup race, 1st Lieut. Harmon J. Norton, Marine Corps, was killed on Sept. 13, when he crashed in the Potomac River off Anacostia. Lieutenant Norton was a native of Alabama, N. Y. and one of the Marine Corps' best pilots. His death is most regrettable and is a severe loss to the service.

After finishing a speed trial flight over a course laid over for the purpose, and on his return to Anacostia, Lieutenant Norton pulled up behind two Army planes which were flying at about 2000 ft. Norton's plane was seen suddenly to nose over and to go into a perpendicular nose-dive. He apparently fought to get out of the nose-dive by trying to roll the plane over just before it struck the water. He did not succeed and the plane crashed in about 6 ft. of water, just south of Haines Point.

This plane, the Curtiss Racer R2C-2 was flown by Lieut. Al Williams, U.S.N., when he won the Pulitzer Race at St. Louis in 1923, and was recently overhauled by the Naval Aircraft Factory at Philadelphia for use as a training plane by the Schneider Cup contestants this year. This plane was flown by Lieut. George T. Cuddihy in his flight from Philadelphia, Pa. to Anacostia, D. C. a short time ago when he broke the record and covered the distance in 32 min.

C. Fayette Taylor on the N.A.C.A.

C. Fayette Taylor, Associate Professor in the Dept. of Aeronautics of the Massachusetts Institute of Technology, has been appointed a member of the Sub-Committee on Power Plants of the National Advisory Committee for Aeronautics.

The Schneider Cup Race

The Schneider Cup seaplane race will be held at Hampton Roads, Va., on Oct. 24, when Italy and the United States will compete for permanent possession of the international trophy, both having won the cup twice before. Italy won the race in 1920 and 1921 while the United States won in 1924 and 1925. It is understood that Italy will race three twin-pontoon monoplanes, two of which will be equipped with Fiat engines (Italian) and the third with a Napier Lion (British). According to a report, 243 m.p.h. has been reached by these machines on test.

The United States team will consist of the three Curtiss Racers which took part in the Schneider Cup race last year when Lieut. James H. Doolittle, Air Corps, won the trophy for the United States at a speed of 232.57 m.p.h.

New Altitude Record

Taking off from the airdrome at Buc, Versailles, France, on Aug. 23, M. Callizo, is reported to have reached a height of 12,800 meters, or approximately 8 mi., eclipsing his previous record of 12,066 meters. Callizo left Buc at 5 p. m. and landed at Le Bourget, 2 hr., 25 min. later. His instruments are receiving official tests.

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The National Air Races

Last Five Days of Sesqui Air Meet Enjoy Better Weather.

WEDNESDAY, SEPT. 8, dawned bright and clear, but pools of water still lay on Model Farms Field and tractors started early scraping down the ruts in the roads which led to the automobile parking space. A. H. Kreider tested out his low-wing lightplane, powered with a Wright-Moorehouse, 30 hp. engine. Two days previously, when the machine had been flight tested for the first time, the plane did not control properly but a slight change in the gearing of the rudder seemed to have remedied the trouble and the plane flew nicely.

Another interesting event was the changing of the engine in the Pitcairn Sesqui-Wing Arrow. This plane was built especially for the races and received much praise from the various pilots and designers who saw it. Although primarily built to beat Casey Jones' famous clipped wing Oriole, it was also decided to enter it in the 510 cu. in. class. This meant shifting from a C-6 engine to an OX-5 engine and then back to the C-6 engine for an event to be held on the same afternoon. In order to make this change a wooden scaffold was erected on the field which supported an iron beam on which ran two heavy tackles, one for taking out the engine, and one for putting in the new engine. Although the plane had only been finished the week before and the Pitcairn organization had been working Sundays and nights getting things ready, the changing of the engines went off very smoothly and was actually done in 31 min. The work was well organized and each man had his particular connections to make. There were several ingenious devices employed to speed the work of changing the ignition and instrument connections and air transport lines would do well to study Pitcairn's job. Changing engines to suit the load would have a practical value in commercial transportation if it could be done as quickly as Pitcairn did it.

OX-5 Elimination Race

The first event on Sept. 8, was the second heat of the elimination trial for the Aero Club of Pennsylvania Trophy. This event for planes of 510 cu. in. and under, drew the greatest number of entries of any of the events. W. H. A. Boyd's 3-place sport plane with the Anzani engine did not show up and C. D. Chamberlain's ancient Bellanca biplane collapsed while Chamberlain was changing a wheel. The landing gear strut, which had broken, was patched up with boards and Chamberlain taxiied across the line to get his entrance fee back, but, to the surprise of many, he did not attempt to fly. The remaining jobs were, therefore, all powered with OX-5 engines.

Two Travel Airs and an Alexander Eaglerock took off in the first group. Walter Beach in Weiss OX-5 Travel Air was crowded off the course at the start and having gone far enough to get his entry money back decided not to continue. It was noticed that the Alexander Eaglerock left the ground after a very short run and climbed quickly. Three Waco 9's then took off and then two more Waco's and the Pitcairn racing Sesqui-Wing Arrow fitted with the OX-5. Due to its small wing area and the muddy condition of the field, the Pitcairn job took a long run to get off but once in the air showed good speed. During the first lap, however, the special valve gear in the Pitcairn OX gave trouble and the plane was forced to land. Even with the missing engine and poor take off, the plane made nearly 100 m.p.h. Kreider in his Waco 9, also with a tricked up engine made better than 100 m.p.h. on his first lap but the engine quit suddenly on the second lap and after just missing some trees he landed abruptly in a very small field and the plane turned over on its back and was severely damaged although Kreider himself was not injured.

With the two fastest planes out of the race the contest was narrowed to a race between Fred Hoyt in a Travel Air and Lloyd Yost and Douglas Davis in Waco 9's. Fred Hoyt, who had flown all the way from Eureka, Calif., came in first with a speed of 96.55 m.p.h. Lloyd Yost, in a Waco 9, came in second with a speed of 95.5 m.p.h., with Douglas

Howard F. Wehrle, managing director of the National Air Races, controlling the events at Model Farms Field.

Davis, also in a Waco 9, placing third at 943 mp.h. John E. Thropp's Waco 9 made 94 m.p.h. The Alexander Eaglerock, piloted by Robert Roland, made 92.1 m.p.h. These close speeds made a good race.

The complete results of Event No. 9 were as follows:

Pilot	*Plane*	*Engine*	*Speed (m.p.h.)*
Fred Hoyt	Travel Air	OX-5	96.554
Douglas Davis	Waco 9	OX-5	95.566
Lloyd O. Yost	Waco 9	OX-5	94.360
John E. Thropp	Waco 9	OX-5	94.093
Robt. Roland	Eaglerock	OX-5	92.160
(did 1 lap at 100.135 m.p.h.)			
Chas. C. Baughan	Waco 9	OX-5	85.682
(did four laps at 79.933 m.p.h.)			

The lightplane race was scheduled as the next event, and as Kreider had not yet returned to the field after his crash, the other three entrants agreed to postpone the event. In the meantime, the military planes put on an excellent show for the entertainment of the crowd. A Martin Bomber glided ponderously in, overshot the field by a wide margin and rolled into a ditch on the far side. An amphibian then made two attempts to get off but the mud was too deep. On the third attempt it got off although the pilot seemed a bit undecided whether to use the brull or the wheels.

Three Marine Corps Boeing Pursuits gave a beautiful exhibition of formation flying and stunting. Then Lieut. Frank H. Conant, U.S.M.C., Lieut. George P. Cuddihy, U.S.N.; and Lieut. George R. Henderson, gave individual exhibitions of stunt flying for the Bamberger Trophy. Lieutenant Conant won the trophy and was also presented with a travelling bag. Lieutenant Sanderson also did some extraordinary flying while the prize was being presented. A smoke screen was laid down by a Martin Bomber; the clowns performed and "Swanee" Taylor did his "snores" over the radio.

The next race was a speed and efficiency race for the Aviation Town and Country Club of Detroit Trophy.

'Casey' Jones versus Jim Ray

Although the larger share of the prize money was put up for the efficiency contest the human interest element of the Town and Country Club of Detroit Trophy lay in the speed race between Jim Ray and Casey Jones. Casey's clipt winged Oriole has been winning every speed event for years and was deemed almost invincible. Pitcairn's job was designed for flights, such as picture carrying, where speed is essential but all good Philadelphians had sort of an idea that it might be able to beat the Oriole. In the previous race Casey's plane had shown itself to be considerably faster but since then every possible part of the Pitcairn job had been streamlined and a Standard Steel propeller had been fitted. Jim Ray was also more familiar with the plane which he had flown only two hours before his previous race.

However the first lap was disappointing to the backers of the home town product. Casey had made 133.4 while Ray had only made 127.9. In the next lap Ray gained and the crowd cheered as on each succeeding lap he crawled up on Casey's plane. Casey flew a perfect race cutting close in on the pylons while Ray, who was not so familar with his plane was more cautious and made wider turns. It was not until the next to the last lap that Jim Ray caught up and passed the speed of his old boss. When Casey flashed by the finish line Ray right on his tail there was a moment of suspense and then loud cheers when the announcer gave Jim Ray's speed as 136.3 and Casey Jones as 132.1. The Travel Air came in third at 127.2 m.p.h., the Chance Vought fourth at 121.4, the Wright Bellanca fifth at 121.3 and the Buhl Verville flown by duPont sixth at 118.6.

Efficiency Winner

The efficiency race was easily won by the Wright Bellanca which with its 200 hp. Whirlwind J5 engine carried 1,292 lb. at over 121 m.p.h. Walter Beach in the Travel Air carrying 660 lb. and Henry duPont in the Buhl Verville came in third. All three winners in the efficiency contest were equipped with Wright Whirlwind engines.

The complete results of Event No. 11 were as follows:

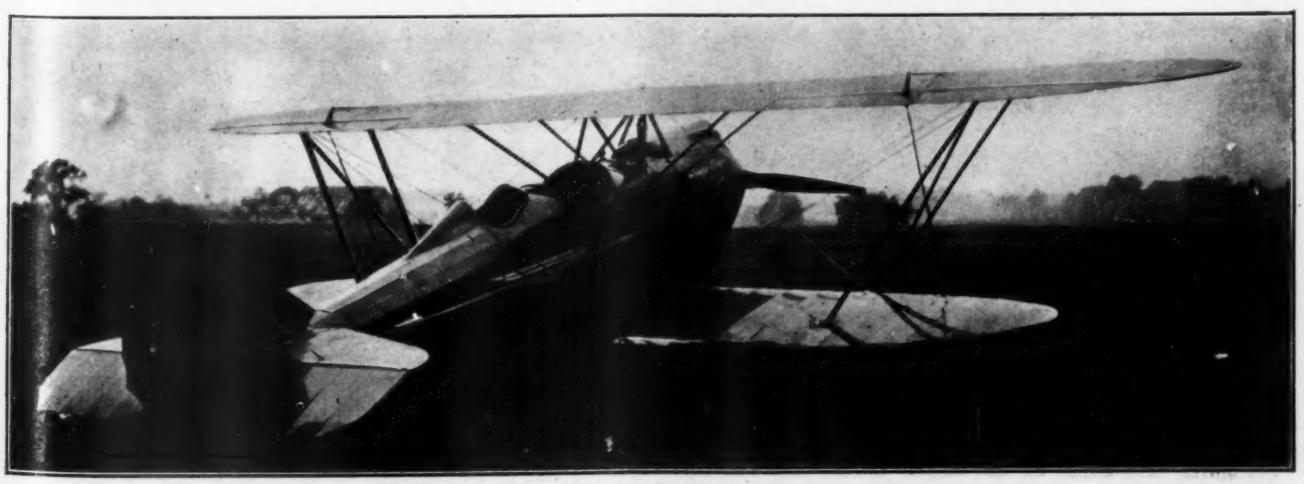
Pilot	*Plane*	*Engine*	*Speed (m.p.h.)*	*Efficiency*
Jas. G. Ray	Sesqui Wing Arrow	Curtiss C-6	136.372	328.7
C. S. Jones	Curtiss Oriole	Curtiss C-6	135.782	325.40
Walter Beach	Travel Air	Wright M.J4B	127.268	426.9
(Did seven laps at 92.803 m.p.h.)				
Thos. Carroll	Vought UO	Wright J5 Rad.	121.499	
C. C. Champion, Jr.	Wright Bellanca	W.B 2 Whirlwind	121.358	678.5
Henry B. DuPont	Buhl-Verville "Airster"	Wright Whirlwind	118.665	265.3
Louis W. Meister	Buhl-Verville "Airster"	Wright Whirlwind	117.299	262.3
Merle Moultrop	Curtiss Oriole	Curtiss C-6	111.914	267.4
Ben Faulkner	Fleetwing No. 1	Curtiss C-6	100.312	437.3
(Did one lap at 91.306 m.p.h.)				

The Light Planes

The light plane event was postponed until late in the evening due to the fact that A. H. Kreider had crashed in the previous race in an out of the way part of the course and

A three-engine job at the Air Races—Casey wins again

across the river from the field. Charles C. Baughan flew over to get Kreider but found no landing field nearby. Kreider in the meantime had motored over to Pine Valley and borrowed a Jenny and flown to the Model Farms Field. The favors of the crowd were pretty equally divided between the four contestants. Jack Lass had flown his Driggs Dart all the way from Dayton and through storms which had held up many larger planes. Heath who has for several years entered light planes in the races without winning had this



The Pitcairn Sesqui-Wing Arrow (Curtiss OX-5 or C-6), winner of the Aviation Town and Country Club of Detroit Trophy in speed at 136.372 m.p.h. with C-6 engine.

year brought to the East a well built nice looking job which seemed of a very practical design. Others liked the Meyers Midget which was the only biplane in the race. Everyone admired Kreider's pluck and perserverence in getting back after his crash and racing his low wing monoplane which had only flown once before.

Phila. Public Ledger
How the weather played havoc with Model Farms Field. The Buhl-Verville Airster considering taking a swim.

At the start one wheel of Kreider's monoplane caught in the mud and it looked as if he might be wrecked but he finally got off at right angles to the wind. The Driggs job got off straight and fast. The Heath "Tomboy" got off quickly and immediately started climbing. Meyers was having trouble getting his Cherub going but finally took off. The Heath started in his first lap at 85 m.p.h. The Meyers Midget, and the Driggs did about 80 m.p.h. By the third lap the Kreider had caught up to the Heath but when directly over the field the spinner came off and went through the propeller with a loud whack. Kreider circled once but finding that nothing was broken he continued on his course. The time which he lost he never quite caught up though he evidently was making fast time.

Phila. Public Ledger
Three of the Air Corps fliers who were responsible for the excellent night flying displays put on each evening during Air Race Week. Left to right: 1st Lieut. William N. Ames, 1st Lieut. George P. Tourtellot, and 1st Lieut. Donald L. Bruner

In the sixth lap the Meyers Midget biplane was seen to disappear a little way beyond the field. Meyers landed in rough ground a little behind beyond some rail road tracks and the plane was badly damaged but fortunately Meyers was not hurt. The cause of the engine failure was not ascertained. It was almost dusk before the race was started and the air was absolutely still. All three pilots were flying a very pretty race. The little Driggs job took corners like the best of the big racing planes, and Lass cocked his plane up very sharply around the corners. Heath cut in close to the pylons but his turns were fairly wide. Kreider who had had practically no flying time on his plane flew wide and flat around the pylons and the plane would probably have made considerably better time around the course had he more time to practice and become more familiar with the planes. At the end of the race the Heath Tomboy had averaged 91.2 m.p.h. the Kreider Midget had made 90.7 and the Driggs Dart had made 85.6.

The Heath and the Kreider Meyers Midget were both fitted with Bristol Cherubs. The Kreider low wing job and the Driggs Dart had the Wright Moorehouse engines. This was almost the first public appearance of these engines in the East and the makers should be congratulated on their successful performance.

The complete results of Event No. 10 were as follows:

Pilot	*Plane*	*Engine*	*Speed (m.p.h.)*
E. B. Heath	Heath Tomboy	Bristol Cherub	91.291
(Did 5 laps in 87.166 m.p.h.)			
A. H. Kreider	KRA Midget	Wright-Morehouse	90.700
Harold J. Laass	Driggs Dart	Wright-Morehouse	85.624

Final OX-5 Race

Thursday, Sept. 9, was cloudy with a brisk southerly wind but fortunately the rain held off until after the meet when it came down in torrents, and again soaked the field. The first event was the final in the race for the Aero Club of

Phila. Public Ledger
Bob. Hewitt who won the Aero Club of Pennsylvania Trophy

Pennsylvania Trophy. Two elimination races had already been run and the winners were eligible to go into the final race. Two of the slower planes did not start and three dropped out with 'engine trouble' after they had flown far enough to get the entry fee back; only seven planes then finished the race.

The race from the outset was between Basil Rowe in a Tommy Morse, and Bob Hewitt of the Ludington Exhibition Co., in his racing Waco. Hewitt had practically a standard motor but had sawed off part of the inner beams and thus reduced the wing area somewhat. The landing gear had also been modified by removing the shock absorbers and the two spreader bars. Careful streamlining throughout also helped account for the really remarkable speed which was made with an OX-5. The Thomas Morse flown by Rowe was fitted with an Aeromarine, T. B., engine of 423 cu. in. displacement designed by Jo Boland some years ago.

Rowe got caught in one of the field's mud holes and made a bad start finally getting off almost cross wind. This slowed him down for the first lap but on the second he caught up

Phila. Public Ledger

The entrants in the Mulvihill Trophy duration contest for models

on Hewitt, but later dropped somewhat behind due to ignition trouble. Hewitt flew a very pretty race making almost perfect turns. Rowe did his usual trick of flying close to the ground, but due to the very gusty weather he appeared to be thrown about considerably more than those who were flying higher.

Hewitt won the race and $1,000.00 in prize money at a speed of 107.5 m.p.h. His time for the 7 laps of the 84 mile course was 46 min. 56 sec. Basil Rowe finished second with an average speed of 104.32 and won $600.00. His time was 48 min. 56 sec. "Casey" Jones, piloting a Thomas-Morse plane with an OX-5 motor, was third with an average speed of 96.6 m.p.h. He covered the 84 mi. in 51 min. and 10 sec. Hoyt, winner of the "On-to-the Sesqui Race", was fourth with a speed of 94.045 miles an hour.

The complete results of Event No. 12 were as follows:

Pilot	*Plane*	*Engine*	*Speed (m.p.h.)*
Bob Hewitt	Waco 9	OX-5	107.516
Basil Rowe	Thomas Morse	Aeromarine	104.322
Casey Jones	Thomas Morse	OX-5	96.610
Fred Hoyt	Travel Air	OX-5	94.045
John E. Thropp	Waco 9	OX-5	92.763
Robert Roland	Eaglerock	OX-5	90.263

Precision Landing

After the race a formation of three Martin bombers flanked by two observation planes and followed by three pursuit flew over the field. The Army then put on a good show of acrobatics and chased small balloons with moderate success. Army and Navy pilots were conspicuous on the field and the row of observation planes made a fine showing. In the meantime seventeen planes were warming up for the precision landing contest for the Valley Forge Trophy. The planes took off one after the other. Robt. Roland in the Eaglerock and Lloyd Yost in a Waco giving a fine exhibition of vertical climb near the stalling point against a strong gusty wind. The planes climbed to the required 1,000 ft. cut their engines and in succession glided for the chalk circle. The wind was gusty and strong and most of the first fliers came short of the mark. Almost every flier used different methods some being forced to stretch their glides and others to kill their speed by varied antics. Douglas Davis won the contest in a Waco 9 landing within 5 ft. of the mark. J. Faulkner in the Pitcairn Orowing came within 7 ft. of the mark. Chamberlain flying the ancient 60 hp. Bellanca and with one landing gear strut tied up with boards and rope landed within 7 ft. 10 in. of the mark. Walter Beach in the Travel Air porpoised on landing (the field was wet enough to warrant the use of the term), and stopped within 24 ft. of the mark. The Travel Air was the only plane fitted with brakes in the contest but the wind was so gusty and the field so wet that the test was not really a fair one.

The Liberty Engine Builders' Trophy

The Liberty Engine Builders' Trophy was a race for observation planes. The Navy flew a special DH and a Vought UO-1, while the Army had entered their modern production types of Curtiss O1 and Douglas O2 observation planes. The surprise of the race was the speed made by the special DH which had been built up by Leo Mohme, first class machinists mate, while on duty at Anacostia. An overhauled Packard 1,500 engine had been installed in the plane and the fuselage refined. On the first lap Lieut. G. T. Owens, U.S.N. pilot of the plane with Mohme as mechanic, made better time than any of the other entrants. On the fourth lap he was still in the lead but narrowly avoided a collision on the home pylon and never regained the advantage which he had lost. The Curtiss Falcons were fitted with Curtiss D-12 engines and made a fine showing in the race. The winner of the race was L. O. Stevens, who averaged 142.2 m.p.h. Capt. Aubrey Hornsby also in a Curtiss Falcon came in second at 141.8. Lieut. Owens of the Navy came in fourth in his very special DH at a speed of 140.5 m.p.h. The other naval entry which got off was the Vought piloted by E. W. Litch. Although this plane had less than half of the power of the other observation planes it made nearly 120 m.p.h.

The complete results of Event No. 14 were as follows:

Pilot	*Plane*	*Engine*	*Speed (m.p.h.)*
Capt. Ira Baker	Vought O-1	Wright J4	142.263
Capt. Aubrey Hornsby	Vought O-1	Wright J4	141.830
Lt. G. T. Owens, U.S.N.	DH Special	Packard 1A-1500	140.526
Maj. J. H. Pirie	Vought O-1	Wright J4	138.661
Capt. J. J. Colgan	Vought O-1	Wright J4	132.773
Lt. G. S. McGinley	Vought O-2	Wright J4	129.219
Lt. L. S. Webster	Vought O-2	Wright J4	126.987
Lt. P. E. Skanse	Vought O-2	Wright J4	124.998
Lt. H. G. Peterson	Vought O-2	Wright J4	122.083
Lt. R. L. Fisher	Vought O-2	Wright J4	120.641
Maj. J. M. Reynolds	Vought O-2	Wright J4	119.360
Lt. E. W. Litch, U.S.N.	Vought UO-1	Wright J4	115.592

Los Angeles Arrives

After the very heavy downfall of rain on the evening before, Friday, Sept. 10, dawned bright and the bad weather appeared to have been broken at last, which proved later to be the case for the remaining two days of the air meet and Sunday, Sept. 12, when the races postponed on the previous Tuesday were held, turned out the best possible days for air racing. The first event for Friday was scheduled to be the military race for large capacity airplanes in competition for the Liberty Bell Trophy donated by John Wanamaker, but the expected arrival of the naval airship Los Angeles made it necessary to postpone the race program until late in the afternoon. The Los Angeles, the largest airship in the world, arrived on the horizon shortly before 3:00 p. m. and circled the field several times, presumably with a view to making sure that the inexperienced landing party of 200 odd sailors from the Navy Yard under the command of Lieut. Comdr. H. V. Wiley was ready to receive her. At approximately 3:30 p. m. the airship was hauled to the ground and there remained for about 40 min. while a partially successful endeavor was made to replenish her water ballast tanks with the aid of fire apparatus from the local station. This was the first time that the Los Angeles had been brought to the ground at any place other than her home station at Lakehurst. The arrival of the airship was hailed with a great deal of pleasure by all for it not only afforded the two to three thousand odd spectators who had gathered at Model Farms Field that

afternoon an opportunity of seeing the ship within a range of a few hundred yards but many of those priviledged with passes onto the field itself, were enabled to view the airship at close range.

The landing of the airship was perfectly successfully carried out and nothing unforseen happened with the exception of a few anxious moments experienced during the time she was on the ground when an unexpected gust of wind of some violence lifted the tile of the ship and with it many of the sailors who were holding the ropes. Some of these let themselves drop before the tail of the airship had risen too high while others not so fortunate were obliged to hang on and endure a few moments of anxiety wondering whether or not the tail was coming down again. This, however, it did within a few seconds and no one was any the worse for the experience. Shortly after this, Commander Rosendahl, commander of the Los Angeles decided to continue the flight to Stroudsburgh, Pa., where the Penn Division of the American Legion was holding a convention. Gently the airship rose and passed low over the crowds presenting a very impressive experience as she steadily sped through the sky in a most majestic manner.

The Liberty Bell Trophy

The Los Angeles gone, it was possible to make some progress with the racing schedule of the afternoon. Owing to the poor state of the field as a result of the terriffic downpours which had been broken over Philadelphia during the week, it would have been quite impossible for the large bombing planes entered in the Liberty Bell Trophy race to take off from the field so it was arranged for these machines to leave Mustin Field in the Navy Yard nearby and fly over to Model Farms Field, entering upon the race with a flying start, each plane being timed as it flew past the home pylon. This, needless to say greatly detracted from the public interest in the race but, nevertheless, the efforts of Swanee Taylor as the announcer were apparently successful in attracting the spectators' attention to the significance of the contest.

The conditions of the race stipulated that the machines had to show a speed greater than 85 miles per hour, be capDalands, Pegasus' winning first, second and third places. The wing area, too, was fixed at not less than 600 sq. ft. These stipulations were obviously to prevent the entrance of freak planes. The distance to be covered was 120 miles being ten laps of the 12 mile course from the home pylon to Paulboro, N. J., then to Woodbury, N. J. and back to the home pylon. There were six entrants in the race, all of the Army Air Corps, three being Douglas Transports (designed C-1) with 400 hp. Liberty engines and the other three, Huff Daland Pegasus light bombers (designated LB-1) equipped with 600 hp. Packard 2A-1500 engines. This machine is one of the largest single engine bombing planes in the World. The Douglas planes carried loads of 800 lb. while the Huff Daland machines carried 1250 lb. each, during the race.

After a very good race, all the honors went to the Huff Dalands, Pegasus' winning first, second and third places. The Liberty Bell trophy was won by Lieut. L. M. Wolfe flying entrant No. 83, a Huff Daland Pegasus, who put up a speed of 123.714 m.p.h. Second place went to Lieut. Kenneth Walker, also in a Pegasus, at a speed of 119.689 m.p.h., while Lieut. J. M. Davies, in the third Pegasus with a speed of 118,667 m.p.h. It was very obvious from the results that the Huff Daland planes were considerably faster than the Douglas machines. It is interesting to point, however, that the winning Pegasus was equipped with a 16 ft. propeller whereas the other two LB-1's had 14 ft. propellers. In view of the fact that the speeds of the second and third planes were so close, it would appear that this extra two feet of propeller diameter on Lieutenant Wolfe's plane, together with his excellent piloting, spelt success for him.

The results of Event No. 15, the Liberty Bell Trophy race were as follows:

Pilot	*Plane*	*Engine*	*Speed (m.p.h.)*
Lieut. L. M. Wolfe	Huff Daland LB-1	Packard 800 hp.	123.714
Lieut. Kenneth Walker	Huff Daland LB-1	Packard 800 hp.	119.689
Lieut. J. M. Davies	Huff Daland LB-1	Packard 800 hp.	118.667
Capt. F. I. Elgin	Douglas C-1	Liberty 400 hp.	114.810
Lieut. E. M. Morris	Douglas C-1	Liberty 400 hp.	111.151
Capt. Ralph Wooten	Douglas C-1	Liberty 400 hp.	110.320

Lieutenant Wolfe made the course in 58 min. 11.91 sec. while Lieutenant Walker, second, took 61 min. 9.33 sec. Lieutenant Davies' time was 61 min. 40.43 sec. while Captain Elgin, the first to finish in a Douglas took 62 min. 42.73 sec.

While this race was in progress, and it should be remembered that it lasted over an hour, Lieut. Alfred J. Williams, U.S.N. went up from Mustin Field in a Curtiss Hawk and, flying over the Model Farms, proceeded to put up one of the most picturesque exhibitions of flying that has been seen in a long time. Lieutenant Williams did everything that it seemed possible to do with the plane including flying it on its back, on its side, as well as on its nose for such a period of time as his altitude would allow. His exhibition of sideslipping was particularly impressive and, on the whole Lieutenant Williams' show gave everyone present something to remember on how a modern pursuit plane can be flown.

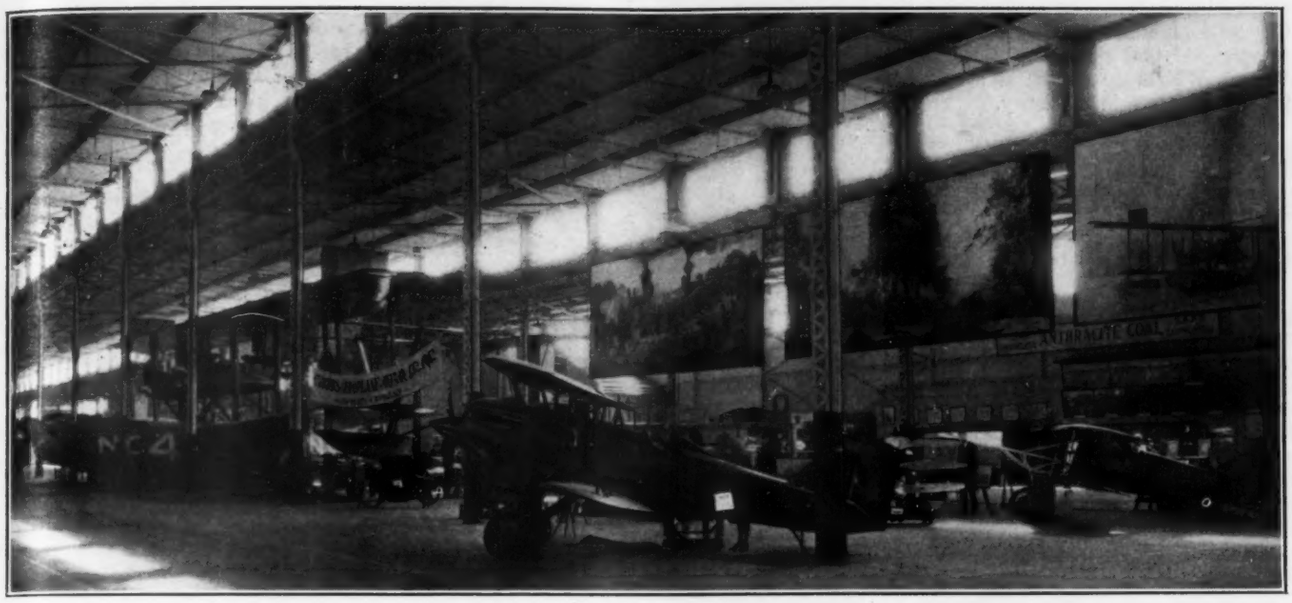
Mitchell Trophy

Immediately after the last of the Douglas Transports had crossed the line in the Liberty Bell Trophy race, the signal was given for the machines of the First Pursuit Group to start on the John L. Mitchell Trophy race, which, while scheduled for 3.15 p. m. was actually delayed until nearly

Lieut. L. M. Wolfe, Air Corps, winner of the Liberty Bell Trophy.

Lieut. C. T. Cuddihy, winner of the Kansas City Rotary Club Trophy, in a Boeing FB-3.

Lieut. L. C. Elliott, Air Corps, winner of the John L. Mitchell Trophy, in a Curtiss Hawk.



A general view of the Aircraft Show in the Transportation Building of the Sesqui-Centennial Exposition

6:00 o'clock. The nine machines entered in this race which, it will be remembered is a closed event for pilots of the First Pursuit Group, were already flying high overhead in a very fine formation of three Vee groups of three planes each, following in line. It was very obvious that these pilots are accustomed to flying in formation together for they kept perfect distance. At a signal from the leader, Major T. C. Lanphier the machines separated into single line formation, if such it may be called and keeping perfect distance, circled around in a wide sweeping curve and came racing past the home pylon in the start of the race. As in the case of the heavy bombing and transport planes, the condition of Model Farms Field was such as to make the taking off of these high speed planes a hazardous proceeding and, accordingly, they too left from Mustin Field.

A Close Race

The race was a close contest. In the first place all the planes, Curtiss P-1 Hawk pursuits with Curtiss D-12 engines and Curtiss-Reed propellers were all identical and secondly, the pilots of the First Pursuit Group are, without exception among the finest pilots in the World and each a close match for the other with the result that, as will be seen from the table of speeds, there was but three miles per hour between the winner and the last in. Each pilot took very fine close corners at the pylons and the race was won by L. G. Elliott at a speed of 160.438 m.p.h. He finished the course of 120 miles (ten laps of the 12 mile course) in 44 min. 52.62 sec. while Capt. F. H. Pritchard, second, made 160.121 m.p.h. His time was 44 min. 57.95 sec. Third place went to Lieut. J. J. Williams at 159.992 m.p.h. and a time for the distance of 45 min. 0.12 sec.

The complete results of the John L. Mitchell Trophy race were as follows:

Pilot	*Plane*	*Speed m.p.h.*
Lieut. L. G. Elliott	Curtiss P-1	160.438
Capt. F. H. Pritchard	Curtiss P-1	160.121
Lieut. J. J. Williams	Curtiss P-1	159.992
Lieut. W. L. Cornelius	Curtiss P-1	159.226
Maj. T. C. Lanphier	Curtiss P-1	158.621
Lieut. K. J. Gregg	Curtiss P-1	158.512
Lieut. L. H. Rodieck	Curtiss P-1	158.162
Lieut. V. H. Strahm	Curtiss P-1	158.123
Lieut. Luther S. Smith	Curtiss P-1	157.070

Owing to the low altitude of the sun at this time of the evening and the fact that the numbers of the machines were painted on the sides of the fuselage only and not on the undersurfaces of the wings, the timers experienced some difficulty in identifying the planes as they passed. This, however, was successfully overcome with the aid of binoculars and to the casual observer it appeared as if the machines remained in the same order throughout the race as at the start until the ninth lap, when Elliott pushed past Smith. With the exception of this change, the machines finished in the order of their start, although of course, this did not necessarily represent the winning order.

The Passing of the "New York-Paris"

Incidentally, it will recall that during the Liberty Bell race the Sikorsky S-35, the three-engine plane which is shortly to attempt to fly across the Atlantic Ocean, flew across Model Farms Field at considerable altitude on its way back to New York from Washington, whence it had been on a test flight.

The two final events of the Air Races started on Saturday without any delay. With the exception of the events of Tuesday which, owing to the bad weather, were postponed until Sunday, Sept. 12, Saturday's races were to bring to a close the seven days of air racing at Model Farms Field.

Detroit News Trophy

The first event was the air transport race in contest for the Detroit News Air Transport Trophy. According to the rules, entering planes had to carry a minimum contest load of 1000 lb. in addition to the pilot and had to show a minimum cargo space, apart from the pilot's cockpit, of 40 cu. ft. The race was divided into two sections, one for speed and the other for efficiency. The distance was 120 miles (ten laps) and efficiency was determined from the formula:

$$\frac{\text{Contest Load} \times \text{Speed (m.p.h.)}}{\text{Engine Displacement (cu. in.)} \div 4} = \text{Figure of Merit.}$$

There were four entries and the speed section of the race was won by C. C. Champion, Jr. flying the Wright-Bellanca WB-2 monoplane with the Wright Whirlwind engine at a speed of 121.532 m.p.h. It will be recalled that it was a Wright-Bellanca which won this race last year. The plane entered in this year's races was almost identical with last year's plane with the exception that the streamline "trousers" are removed in the undercarriage construction and there have been one or two changes in the cabin arrangement which even further improve the already excellent visibility which the pilot has in this plane. The WB-2 is an entirely new machine.

The efficiency section of the race was also won by the Wright-Bellanca, thus again repeating the history of last year. C. C. Champion scored 896 points in efficiency against his closest competitor's (Pitcairn Fleetwing) 736 points. The Pitcairn Fleetwing, with the Curtiss C-6 engine, piloted by James G. Ray, took fourth place in speed, doing 103.465

m.p.h., which is really a very good speed for a machine of this type. Second speed place in the race went to Louis G. Meister in the all-scarlet Buhl-Verville Airster with the Wright Whirlwind engine at a speed of 119.987 m.p.h. He took third place in efficiency.

The complete results of the contest were as follows:

Pilot	*Plane*	*Engine*	*Speed (m.p.h.)*	*Efficiency*
C. C. Champion, Jr.	Wright-Bellanca	Wright Whirlwind	121.531	896
Louis G. Meister	Buhl-Verville Airster	Wright Whirlwind	119.987	624
R. W. Schroeder	Ford TriMotor	3 Wright Whirlwinds	114.262	427
James G. Ray	Pitcairn Fleetwing	Curtiss C-6	103.465	736

The speed of the Ford-Stout three-engine all-metal monoplane is very interesting since it not only indicates the good performance of this machine but it is a very true indication of the excellent piloting of the plane by "Shorty" Schroeder during the race. His rounding of the pylons drew the admiration of everybody. At times there was no doubt that his wing tip was little more than half a span from the ground as he swept the large machine around the home pylon at from 60 to 75 deg. bank. The fact that the Ford plane was last in the efficiency section of the race was, of course, due to the fact that the machine had three engines which penalized it on engine displacement in the formula. But it must be remembered that in air transport operations something must be paid for the greatly added reliability of the three-engine airplane.

When the Ford plane had landed, Schroeder gave a very interesting impromtu demonstration of the maneuverability on the ground of a three-engine machine equipped with wheel brakes as in this machine. Right in front of the timers stand Schroeder made his large machine perform a series of slow circles about each wheel respectively with no outside assistance whatsoever, but merely by locking one wheel and opening up the outside engine to pull the machine around.

Kansas City Rotary Club Trophy

By this time, the long string of pursuit planes entered in the final contest of the program, the race for the Kansas City Rotary Club Trophy, were circling overhead ready for the signal to start. Conditions of the ground made it impossible, as on the previous day, for these machines to take off from Model Farms Field. This event nominally took the place of the Pulitzer race which was not held this year. The event was open to both Army or Navy pilots and all pursuit type machines, over a distance of 120 miles.

There were twelve entrants in all, eight being Air Corps; three, Navy; and one Marine Corps. The race was a close match and proved an exciting event since, in the first place there were one or two exceptionally interesting planes in the race and secondly the element of competition between both the Army and the Navy was great. The Navy secured the Trophy, Lieut. C. T. Cuddihy, U.S.N. flying a Boeing fighter FB-3 with a Packard 2A-1500 engine of 600 hp., winning with a speed of 180.495 m.p.h. His time for the 120 miles was 39 min. 53 sec. The Air Corps took second place, Lieut. L. G. Elliott, winner of the Mitchell Trophy the day before, doing 178.609 m.p.h. in a Curtiss Hawk P-2 equipped with a high-compression Curtiss V-1400 engine of 500 hp. His time was 40 min. 18 sec. Third place also went to the Army Air Corps, Capt. Ross Hoyt, flying a Curtiss P-2 with a normal Curtiss V-1400 engine at 170.909 m.p.h. with a time of 42 min. 78 sec.

Two Air-Cooled Pursuits

The machines of exceptional interest in the race were, the Navy's Wright Apache F3W-1 which was equipped with the Pratt and Whitney Wasp engine, which was piloted by Lieut. C. C. Champion, U.S.N. and the Air Corps' Curtiss P-1 equipped with the inverted air-cooled Liberty engine which plane was piloted by Lieut. C. E. Crumrine. Both these planes were, nominally, of the same power, each engine being rated at 400 hp. but the Wasp engine plane was very obviously the faster of the two. The Wasp is a radial engine and the performance of a pursuit plane equipped with an engine of this type has been the cause of much conjecture in the past. The expected resistance of the projecting cylinder heads, if there is any added resistance from this cause, appeared not to have impaired the speed of the plane to any great extent. The machine was making a speed of 168.825 m.p.h. but owing to the fact that Lieutenant Champion cut a pylon on the second lap, he was disqualified from placing in the contest.

Results

The Curtiss P-1 with the inverted Liberty engine made a speed of 167.705 m.p.h. but it, too, was disqualified owing to Lieutenant Crumrine cutting a pylon on the sixth lap.

The complete results of the race are given below:

Pilot	*Plane*	*Engine*	*Speed*
Lt. C. T. Cuddihy, U.S.N.	Boeing FB-3	Packard 2A-1500, 600 hp.	180.495
Lt. L. G. Elliott, A.C.	Curtiss P-2	Curtiss V-1400, 500 hp. (high-comp)	178.609
Capt. Ross Hoyt, A.C.	Curtiss P-2	Curtiss V-1400, 500 hp. (normal)	170.909
Lieut. C. C. Nutt, A.C.	Curtiss P-2	Curtiss V-1400, 500 hp.	170.759
Lt. H. T. McCormick, A.C.	Curtiss P-2	Curtiss V-1400, 500 hp.	169.588
Lt. H. D. Barner, U.S.N.	Curtiss F6C-1	Curtiss D-12, 440 hp.	163.574
Lt. L. M. Sanderson, U.S.M.C.	Boeing FB-3	Packard 2A-1500, 600 hp.	163.364
Lt. A. B. Ballard, A.C.	Curtiss P-1	Curtiss D-12 440 hp.	159.255
Lt.. C. C. Champion, U.S.N.	Wright F3W-1	P & W Wasp, 400 hp.	168.825
Lt. J. I. Moore, A.C. (cut pylon)	Curtiss P-2	Curtiss V-1400, 500 hp.	169.595
Lt. W. J. McKierman, A.C. (cut pylon)	Curtiss P-1	Curtiss D-12 440 hp.	176.186

The "Voice from the Sky"

With this event, the National Air Races for 1926 nominally came to a close with the exception of the two events of Sept. 7 which were postponed until Sunday, Sept. 12. Before the spectators had left the field, however, a demonstration of the "Voice from the Sky", was put on. By means of a new invention, it is possible for an occupant of an airplane flying several thousand feet up to make his voice plainly heard to the people on the ground below. The airplane was the Yorktown, the Sikorsky S-29, with twin Liberty engines, and into the underside of the fuselage was fitted what appeared to be a large radio loud speaker. When the machine was at least 1000 ft. over the enclosures, the voice of one of the occupants of the machine singing popular songs was heard perfectly loudly and clearly on the ground. The engines of the plane were throttled while the demonstration was in process. The demonstration was very remarkable and immediately suggests striking possibilities in the airplane for advertising purposes.

Final Events

The events which had been postponed on Tuesday on account of the wet condition of the field were run off on Sunday, Sept. 12. The weather was fine and a fair-sized crowd had gathered to watch the show. "Swanee" Taylor on the microphone kept the crowd amused and there were several parachute jumps, one by Ensign Star and two from an F5L flying boat. Two of the parachutes seemed to foul somewhat and the jumpers opened their reserve chutes. The day being Sunday, the Army and Navy did not put on their show of acrobatics and this was greatly missed.

Benjamin Franklin Trophy

The first event was the Novelty Relay Race for the Benjamin Franklin Trophy. There were three teams of three planes each entered. After making one lap of the course, the planes landed as near as possible to a flag. The passenger would get out, grab the flag and run back and tie the flag on to the next plane of the team, which repeated the process. The event and $500.00 in prizes was won by a team consisting of Basil Rowe and Casey Jones on Thomas Morses and A. H. Kreider in a Waco 9. The Ludington team, consisting of Bob Hewitt, Jack Thropp and Douglas Davis, all flying Wacos, took second place and won $300.00. The Pitcairn team came in third and won $200.00.

Tioga Engine Parts Contributed to the North Pole Flight

IN a message to the Wright Aeronautical Corporation, Lieut. Comdr. R. E. Byrd reported that his three 200 h. p. Wright Whirlwind aircooled radial engines functioned perfectly during his entire 15 hour 51 minute flight to the North Pole and return to Kings Bay.

Behind the wonderful reliability of these American aircraft engines is sound design, engineering, materials and workmanship, no less in the components of which the engines were constructed than in the finished product.

Naturally, therefore, it is a source of satisfaction to this company to be able to say that

TIOGA

STEEL CYLINDER SLEEVES

are used in Wright Whirlwind Engines

Tioga Steel & Iron Company

52nd and Gray's Avenue, Philadelphia. Pa.

Subsidiary of Taylor-Wharton Iron & Steel Co., High Bridge, N. J.
Other Plants: Philadelphia Roll & Machine Co., Philadelphia, Pa.;
Wm. Wharton, Jr., & Co., Easton, Pa.

Contractors to
U. S. Air Service, Bureau of Aeronautics, Navy Dept., Wright Aeronautical Corp., The Curtiss Aeroplane & Motor Co., Inc., Pratt & Whitney Aircraft Engine Department

The Kreider, Reisner Aircraft Co.'s Meyers' Midget which had had a forced landing on the first day of the race had been repaired enough to taxi across the line but not to fly. The Heath Tomboy with Bristol Cherub engine (75 cu. in.) and the Kreider Midget and Driggs-Dart with Wright-Moorehouse engines (80 cu. in.) all got off in good form in the race for the Dayton Daily News Light Airplane Trophy. The contestants were supposed to reach an altitude of 500 ft. before getting to the second pylon. A balloon was meant to mark the altitude but as none was available, an airplane was supposed to mark the altitude but did not get there until the second lap. Kreider spent some time looking for it and the time he wasted lost him the race. Heath was out to win and flew extremely low on the first part of the leg, which was against the wind and then climbing very quickly to get his 500 ft. Kreider took the turns very wide and flat and seemed to have some difficulty in getting his 500 ft. Jack Laass in the Driggs Dart, which is designed for cross-country work, was outclassed as to speed but he handled his plane beautifully. Incidentally, in both the planes where the pilots sit above the wing, the fliers stated that they had trouble seeing the pylons while Laass had no difficulty in this respect. The Heath Tomboy came in first at 86.4 m.p.h., winning the Trophy and $750.00; the Driggs, second at 82.7 m.p.h., winning $400. and the Kreider at 76.7 m.p.h. was awarded $200.00 for third prize and also the fourth prize of 150.00.

Lightplane Results

The complete results of Event No. 7 were as follows:—

Pilot	*Plane*	*Engine*	*Speed (m.p.h.)*
E. B. Heath	Heath Tomboy	Bristol Cherub	86.454
Harold J. Laass	Driggs Dart	Wright-Morehouse	82.762
A. H. Kreider	KRA Midget	Wright-Morehouse	76.771

Scientific American Trophy

The race for the Scientific American Trophy was also 12 laps around a 5 mile course. The entrants were the same as in the previous race except for the addition of Chamberlain's very ancient Bellanca with a 3-cylinder Lawrance engine. This plane, of the vintage of 1920, did well but it was the only two-seater sport plane at the meet which is a sad commentary on the development of this type of plane. In this race, Kreider plainly showed his superior speed, averaging 94.4 m.p.h. and winning the Trophy and $750., while Heath came in second at 91.2 m.p.h., winning $500., Chamberlain, in the Bellanca, did 89.3 m.p.h. getting $150. and the Driggs did 85.3 m.p.h. and got $100. In this race, Kreider seemed more familiar with his plane, banking more sharply on the turns and flying low. Heath's engine missed a little and, in spite of his efforts, he kept falling behind especially toward the end of the race. The Driggs Dart was flying comfortably but could not expect much unless some one had engine trouble, and no one did.

The complete results of Event No. 6 were as follow:—

Pilot	*Plane*	*Engine*	*Speed (m.p.h.)*
A. H. Kreider	KRA Midget	Wright-Morehouse	91.493
E. B. Heath	Heath Tomboy	Bristol Cherub	91.217
C. D. Chamberlain	Bellanca T. CEBip.	3-cyl. Lawrence	89.342
Harold J. Laass	Driggs "Dart"	Wright-Morehouse	85.381

With this event, the National Air Races for 1926 came to a final close. Maj. Howard F. Wehrle, managing director of the National Air Races and of all aircraft activities in the Sesqui-Centennial Exposition, and all those who worked with him are to be congratulated on having so successfully met the great difficulties accompanying the organization of a show of this nature in the face of many very adverse contingencies, none the least significant of which was the weather.

N.A.A. Officers for 1926

The annual banquet of the National Aeronautic Association was held in the Penn Athletic Club on Thursday Sept. 9, after which Porter S. Adams, of Boston, Mass. was elected president of the Association for the coming year.

Other officers chosen were: Carl Wilfley, St. Joseph, Mo., vice president; Valentine Gephart, Seattle, secretary, and Benjamin Castle, New York, treasurer.

Governors-at-large elected were: Orville Wright of Dayton; Donald Douglas, Los Angeles; William B. Mayo, Detroit, and Claude Ramsey, Seattle.

Aeronautical Exhibit at the Sesqui

The Palace of United States Exhibits, Transportation Building which covers seven and a half acres at the Sesqui-Centennial Exposition, contains an aeronautical exhibit which embraces all details of the subject. The eastern half of the building houses the exhibits prepared by the various departments of the Government, which include that of the National Advisory Committee of Aeronautics, and here can be seen the various parts of an airplane, with explanations as to what respective function they perform in flight. The western half of the building is devoted to transportation exhibits, and the aircraft section contains planes and apparatus loaned by the United States Army Air Corps and the Navy. The NC-4, the first airplane to cross the Atlantic, is in this section, as well as models of all engines in use during the past ten years.

Porter H. Adams
President of the National Aeronautic Association.

Benjamin F. Castle
Treasurer of the N.A.A.

Carl H. Wolfley
Vice-President of the National Aeronautic Association.

Where There's A Winner There's a Curtiss-Reed

Here are the results of the first six events at the National Air Races in Philadelphia:

"ON-TO-THE SESQUI" RACE:

Won by Fred Hoyt in a Travel Air, **equipped with Curtiss-Reed Metal Propeller.**

AERO CLUB OF PENNSYLVANIA TROPHY:

Won by B. L. Rowe in a Thomas-Morse, **equipped with Curtiss-Reed Metal Propeller.**

INDEPENDENCE HALL TROPHY:

Won by "Casey" Jones of the Curtiss Flying Service, in a Curtiss "Oriole", **equipped with Curtiss-Reed Metal Propeller.**

"B.B.T." TROPHY:

Won by a team of three airplanes, flown by "Casey" Jones, A. H. Kreider, and B. L. Rowe. **Two of these three machines were equipped with Curtiss-Reed Metal Propellers.**

NATIONAL GUARD TROPHY:

Won by Lieut. C. W. Rach, in a Curtiss "Jenny" **equipped with Curtiss-Reed Metal Propeller.** Of the eleven identical "Jennies" competing in this race, the winner was the **only** one using a metal propeller.

AERO CLUB OF PENNSYLVANIA TROPHY:

Won by Fred Hoyt in a Travel Air, **equipped with Curtiss-Reed Metal Propeller.**

All of these Curtiss-Reed propellers were of the standard twisted type, of which there are more than a thousand in service in the United States.

THE CURTISS AEROPLANE AND MOTOR CO., INC.

Offices:
Garden City, New York

Curtiss

Factories:
Garden City and Buffalo, N. Y.

Such equipment as propellers, launching cars for catapults, wing panels, gasoline gravity tanks, oil tanks and radiators and aircraft guns form a part of this section.

The Aeronautical Chamber of Commerce of America has assembled an exhibit of paintings, showing the history of transportation in America, from the legendary visit of the Vikings in 1100 A.D. to the first continental by airplane, New York to San Francisco, 1919.

Industry Displays

Manufacturers of aircraft, parts and accessories have individual exhibits of great interest. The Curtiss Aeroplane and Motor Company, Inc., of Garden City and Buffalo, N. Y., has an extensive display near the exhibits of the U.S. Navy. The Wright Aeronautical Corporation, of Paterson, N. J., also has on view a Wright-Whirlwind 200 hp. engine complete, and also engine parts. Huff-Daland Airplanes, Inc., of Bristol, Pa., exhibits a dusting plane, used in fighting the boll weevil and other injurious insects. Other exhibitors are: The Edo Aircraft Corporation, College Point, N. Y.; Advance Aircraft Co., Troy, Ohio; Sperry Gyroscope Co., Brooklyn, N. Y.; the S.K.F. Industries, Inc., New York City; Fairchild Aerial Camera Corp., New York City; Vacuum Oil Co., Philadelphia, Pa.; Stewart Hartshorn Co., New York City; Macwhyte Co., Kenosha, Wis.; Wood Conversion Co., Clequet, Minn.; Pioneer Instrument Co., Brooklyn, N.Y.; Haskelite Mfg. Corp., Chicago, Ill.; L. W. Ferdinand & Co., Boston, Mass.; Victor Dallin, Lansdowne, Pa.; O. K. Blake, St. Petersburg, Fla.; Air Service Publishing Co., Washington, and the Aviators Preparatory Institute, New York City.

The Aircraft Industry Shines at the Air Races

The performances, as a whole, of the numerous airplanes entered in the many events of the National Air Races can only be considered as extremely commendable from the standpoint of the aircraft industry and its excellent products. While, of course, there were quite a number of airplanes and engines in the races which were by no means new, the performances of these old timers continued to reflect their excellence in both design and construction. In addition, there were a number of new airplanes entered and also a number of, if not perfectly new, at least most up-to-date, engines.

Among the airplanes, Waco 9's, Travel Airs, and Swallows were in prominence, and while none of these are entirely new types, they still represent the most used modern aircraft in civilian activities in this country today. Then, mention may be made of the Pitcairn planes, which are newcomers during the past year. The Feetwing, with Curtiss C-6 engine, and the Sesqui-Wing Arrow with both C-6 and Curtiss OX-5, put up some very fine performances. Among the larger airplanes, the Huff Daland Pegasus, one of the largest single engine bombing planes in the world, is one of the new machines, although one of these machines did race last year, also with success. This year, a speed of 123.7 m.p.h. was set up by the winning Pegasus in the Liberty Bell Trophy race. Huff Daland Pegasus planes and Packard engines took the first three places in this event. All these machines were equipped with the Packard 2500 engine developing 800 hp. which is now accepted as one of the most reliable high powered engines in use at this time.

It would seem almost unnecessary to discuss the performances of the Curtiss Hawk pursuit planes in the two pursuit plane races, for these planes are known, not only in this country but all over the world as among the most serviceable pursuit machines in existence. The Curtiss pursuit may be said to have set the pace in pursuit plane design, together with their Curtiss D-12 and V-1400 engines. The new Navy Boeing pursuits, one of which won the open pursuit plane race at 180.5 m.p.h. the fastest time of the Races with a 600 hp. Packard engine, are also among the latest pursuit plane developments.

In the matter of engines, the outlook is equally favorable. While the low power Curtiss engines, which are so extensively used in civilian flying throughout the country and which figured very largely in the events at Philadelphia, are not by any means new products, their continued service indicates a certain soundness of design which is essentially Curtiss. Among the modern engines in wide use in commercial planes, the Wright Whirlwind undoubtedly holds the lead, a fact which was well characterized in Philadelphia. In the Detroit News Air Transport Trophy race for civilian planes carrying at least 1,000 lb. ballast, the Wright Whirlwind engines won first third and fourth places in the efficiency division and first, second and third places in speed. The Wright-Bellanca won first in each division, the Buhl-Verville Airster won second in speed, with the Ford three-engine plane, third. Each of these machines was equipped with Whirlwind engines, the Ford-Stout plane having three of them. The Whirlwind engine was also in the winning plane in efficiency in the Aviation Town and Country Club of Detroit Trophy race. The machine was the Wright-Bellanca.

Another interesting new engine performance was that of the Pratt and Whitney Wasp radial air-cooled engine in the Navy's Apache shipboard fighter which raced in the Kansas City Rotary Club Trophy race for pursuit planes. Unfortunately the plane was disqualified due to cutting a pylon but it put up a speed of 168.8 m.p.h. Many had been of the opinion that a radial engine in a pursuit plane would not make a very speedy combination but this obviously is not so in the case of the Wasp engine in the Apache plane.

All the engines in the race performed remarkably well and there were only one or two landings due to engine trouble which in every case was of a special nature not directly attributable to the engines themselves. Scintilla magnetos provide ignition for the majority of, if not all, the most modern American aircraft engines and the performances set up in the races have to be placed in no small measure to the reliability of these magnetos.

Winning Planes Equipped With Streamline

Four of the first five planes in the Reliability Tour, Aug. 7 to 21, were equipped with Macwhyte streamline tie rods. Walter Beach's Travel Air plane, which finished first in the Tour; Stinson's Detroiter, made by Stinson Aircraft Corp., Detroit, and two Waco planes, made by the Advance Aircraft Corp., Troy, were all equipped with streamline tie rods.

The Reliability Tour, watched with great interest by the industry, emphasized the necessity for all devices which make for increased flying efficiency.

The record of these four Macwhyte equipped winners is an indication of the progress which is being made in the development of efficient commercial flying in this country.

New Air Mail Stamp

A new air mail stamp of a 15 cent denomination is now being printed at the Bureau of Engraving and Printing and will be placed on sale in the near future. The stamp will be used to cover air mail postage over one zone of the government-operated transcontinental route, where the air mail postage is 8 cents plus transportation over one of the contract air mail routes up to 1,000 miles, where the postage charge is 10 cents. Thus 5 cents is charge for transport over the government line and 10 cents over the contract line.

The stamp also will be used on contract air mail routes where the distance to be traveled is in excess of 1,000 miles. At present, only one such contract route exists, that between Seattle and Los Angeles.

The stamp is a horizonal rectangle 75/100 by 1 84/100 in. in size and is printed in sepia. The central design represents a map of the United States, showing some of the rivers and mountain ranges. On each side is an airplane in flight, one traveling East and the other West. Across the top of the stamp in white Roman letters are the words "United States Postage" with the words "Air Mail" directly beneath. At the bottom of the stamp in shaded letters is the word "Cents" and in both lower corners are the white numerals "15". Ornamental plastic brackets appear at each side of the stamp.

A Surge of Power

The motorist, driving in safety on a well paved road, likes to feel a surge of power when he presses his foot upon the accelerator. He seldom has any real need of this power, but he gets a keen satisfaction from the knowledge that it is there to use when he wants it.

To the aviator, however, this rush of power often means life and safety. A sudden gust of wind, an "airhole" in his path, and his craft rocks and heaves. Failure of the engine, or a sluggish response to the throttle, may mean death.

That is why the aviator so carefully examines and tests his motor before starting a flight. That is why he is so insistent upon the highest quality of fuel and oil. He knows what engine failure may bring, and he takes no chances.

Stanolind Aviation Gasoline and Aero Oils

are the choice of the majority of flyers throughout the Middle West, because they have learned from experience that they can depend on these products for swift power when it is most needed.

Stanolind Aviation Gasoline and Aero Oils are available at most landing fields in the Middle Western states. For a map showing the location of these fields, send for our "Aviation Manual," which will be mailed free upon request.

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General Offices: 910 S. Michigan Ave.
Chicago

A Tribute to the Air Mail Service

All Credit to the Men Who Fly the Mail—In All Weather, Day and Night.

By W. T. WHITLOCK

WITH THE cry, the 500 million candle power flood lights of Brook Park Field were switched on and the darkness of the night was magically changed to an eerie daylight. Trucks began to pop and the waiting mail plane was started. A little to the East, the throbbing of a Liberty could be heard, which grew into a roar as the mail plane approached. Still no sign of it. Suddenly a beam of light from the sky appeared, seemed to hang in space and later the little red and green wing tip lights of the mail plane could be perceived. It hovered over the ground, settled, and finally taxied to the hangar, where the waiting mechanics removed the pouches of mail and transferred them to the westbound Boeing. Paul Collins, veteran night flier, jumped from the cockpit and, with his life pack bumping against his legs, walked to the mail office.

"First hundred miles out of New York was like flying in a well. Fog was heavy over the mountains and you couldn't make out a thing. Wasn't so bad later, the moon broke through the clouds and made a bit more visibility. Over Bellefonte it was fine, nice clear weather with a good visibility. The mountains are bad and the changing temperatures make it foggy most of the time. Well, guess I'll turn in"—and with that walked wearily to his waiting car.

The Boeing was sufficiently warmed up and Shirley Short donned his flying togs and parachute, climbed into the machine and taxied into the wind. A burst of engine and the plane became a wee light soaring into the distance. A few hours later, it would land in Chicago, where its pouches of mail would be transferred from plane to plane until they reached their destination in San Francisco.

The Start of Night Mail

The first night mail was carried on the Central Division, Chicago to Cheyenne, on July 1, 1924. Much preparation was needed for this enterprise and plans were formulated eight months before the actual work on the route began. Beacons were set, emergency fields prepared at an approximate distance of twenty-five miles apart and many incidentals had to be arranged. It took seven months alone for the setting of the beacons. Gradual extension of the night flying facilities both East and West, made it possible, a year later, to make the first coast to coast, non-stop flight. The mail no longer waited for the light of day, but flew from Frisco to New York, regardless of weather or time of day. At present, revolving beacons of 500,000 candle power are placed at intervals along the route, the average distance on the Eastern Division being every thirteen miles. These beacons, however, are to be replaced shortly by automatic lights, which will not require the service of a caretaker. At main terminals along the route, flood lights of five million candle power, which transform the night into day, are standard equipment.

The lighting equipment on the planes is the result of long study. Most of the experimenting was made at McCook Field, and the equipment is regulation Army material. Besides the wing-tip lights, each plane is fitted with two magnesium flares which can light up the countryside for an area of three miles. The planes have their own generating systems for lights on the dash and the red and green wing tip navigation lights.

Mail pilots are extremely recitent about their exploits, which is a shame. Countless tales of valor and heroism, to say nothing of times when quick thinking was a matter of life or death, could be told. Some years ago, a mail pilot was on his way from New York to Cleveland, and, when over the mountains, noticed that his oil pressure had fallen. To land would have been fatal. Fog, trees and the mountains made it imperative that he remain in the air. By quick thought he rolled the machine from side to side, making the remaining oil in crank case slosh around the bearings and thus made his port. The same pilot, when out West, flew into Telephone Canyon and hit the top of a mountain. He and the wings remained on top of the hill while the engine and fuselage rolled thousands of feet into the Canyon. Unfortunately he suffered a broken nose.

Private flying in England. A DH. Moth of the London Aeroplane Club being refueled. The garage rate is said to be $20.00 per month.

THE

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Write for Details

THE ADVANCE AIRCRAFT COMPANY
TROY, OHIO

Did you ever hear of the "Rabbit Hunter"? A pilot was flying over the Eastern Division when his engine cut out. The landing facilities were nil, and when he neared the ground, he had to hedge hop a row of trees only to find more trees. Of course, this could not last indefinitely and he finally crashed, but was unhurt. Next day the ground force went to get the plane and found a rabbit under the rudder. Hence he was dubbed the "Rabbit Hunter" for some time afterward.

A forced landing in Pennsylvania resulted in a rather humorous anecdote. The pilot was dressed in his winter flying togs with the collar well up about his head. The sun had just sunk over the horizon and dusk was beginning to cast its shadows over the hills. He knocked on the door of a nearby farmhouse and a woman came to the door. He started to make known his wants when she fled, screaming, from the house. Naturally, he was dumfounded. A moment later she rushed back with her husband who bore a shot gun. The pilot thought that he was indirectly the third side of the eternal triangle and was at a loss to know what to do. Suddenly the man laughed—laughed until the tears rolled down his cheeks, and after a few words to his wife, she also became mirthful. All of which seemed like a page from the log of a madhouse to the bewildered pilot. The farmer approached and said, "My wife thought that you were a gorilla and was almost frightened to death." Being mistaken for an anthrophoid, naturally, was no great compliment to the flier, but his relief was so great at the outcome of what seemed like a shooting fray that he joined in the festivities.

The Superior DH

Field Manager Shaver, of Cleveland, some years ago attended an air meet at Selfridge Field, Mt. Clemens, Mich. Along with him went four or five of the air mail pilots with their planes to join in the activities. A certain flier at the field was boasting of the performance of his Rumpler and, unknowingly, told a few of the mail boys that his machine was far superior to any DH that ever flew. Which they took solemnly in, and tried to get him to bet that his bus would beat a mail plane. However, he was much against games of chance, it seemed so would not wager. One by one, the mail pilots strolled away. At length, the flier took his much vaunted Rumpler into the air and, immediately, three DH's took off. It was a sight to see. They dived under him, zoomed over him and flew in circles about him until the poor man was harassed to death. Shaver stood below watching them. He shook his head and said, "You might as well tell water to stay out of a rain barrel as to talk to them. . . . I gave them orders not to stunt, look at them." And then he laughed. They are a wonderful bunch of airmen—the cream of pilots—and surely deserve credit. They are the explorers of the skies, and the ones who are blazing an immortal trail across the heavens; a name that will live through history, along with the Pony Express and the Covered Wagon.

Even as there were sacrifices of lives to the Pony Express, the first railroad, there have been martyrs to civilization's cause in the mail—pilots who flew in storms, in winter, at night, to keep up the slogan of the service—"The mail must fly". My hat is off to the boys who fly the pouches from New York to San Francisco—the pilots of the Air Mail Service.

New Chicago—Twin Cities Air Mail Contractor

The Northwest Airways, Inc., of Detroit, Mich., will take over the operation of the Chicago-Twin Cities air mail from the present contractor, Charles Dickinson, on Oct. 1, it has been announced by Postmaster General New.

Dickinson recently gave 45 days' notice, as required by law of his desire to discontinue service on the line. New bids were called for and opened Saturday, Sept. 4. The Northwest Airways, the only bidder, was awarded the contract.

The new contractor will take over the pilots from the present operator and use new planes. A plane will be held in reserve at each end of the line, something that Dickinson has not done, and a detail which is expected to materially enhance the prospects of success for the enterprise.

Side Slips

By Robert R. Osborn

News of The National Air Races From "Side Slips" Special Correspondent. (Sincere apologies to Mr. Ring Lardner)

It may surprise you very much to know that I and the flivver are not at the air races as originally planned. This is on account of the fact that at the time of our hop-off last Saturday evening from Long Island, there was a dense fog over New York and nearby New Jersey towns. Early the next morning when I finely arrived at my destination and I got out in search of fuel for both myself and the flivver, You can imagine my consternation when I found I was not in Philadelphia at all but in one of the well known Jersey seashore resorts.

* * *

After thinking it over, it seemed only logical I should stay here a few days and sort of look the situation over, what with some of the entrants for a beauty contest arriving in town, and everything. This is only the devotion to duty for which I am so justly famous, as when I go up to the air races later in the week, the boys will ask me whether it is worth while to hop down to Atlantic City and if I don't know, they will say, "What kind of a correspondent are you anyway?" And my advice is,—if any designers want to get some ideas on speedy models with good streamlining and fairing, why, this town is the place.

And as for the landing gears on display, my, my, you have no idea!

At first I was thinking it might be a good idea to have next year's races down here in conjunction with this beauty contest, but on second thought the boys might start falling for some of these dames.

I see by the newspapers that, in the first few days, Casey Jones won a couple more races, thereby adding more nicks on his control stick.

I greatly fear he was not himself, in spite of the fact that he won the races, on account the report reaching this town that he had worn a vest while flying instead of only knickers as per usual. When he gets to wearing a coat flying a race it will be a sad day for aviation.

* * *

One of the guests who was helping me pay off the mortgage on the hotel had seen a few days of the races for the first time. He was dumfounded that cash prizes were paid for the model races instead of tops, marbles, scout knives and other nice toys. He said one of the saddest things he ever saw was when one of the models, in which an aged inventor had invested his entire fortune, disappeared in a low-hanging cloud and has not been seen since. The timers and officials were still on hand waiting for it to come down.

A lad was grooming his lightplane for the race but had to give up the idea at the last minute on account the ignition system on his two cylinder engine which got out of adjustment. There was nothing in the book of instructions about whether the firing order of the cylinders was 1-2, or 2-1 and he didn't want to take a chance until he found out for sure.

* * *

Tomorrow I'll break away from the vast no. of admirers and friends I have down here and will attend the air races for you and the readers. I was glad the managers of the races went ahead as usual in spite I wasn't there as I wouldn't want to spoil the common people's fun. This shows the races is better managed than last year, what with soldiers walking around with fixed bayonets and blood in their eye. A couple of these soldiers would not let me into the hangars in spite I told them who I was.

Y'rs. V'y Tr'ly,
The Intrepid Aviator.

AIRPORTS AND AIRWAYS

Hartford, Conn.

By Harry Depew Copland

With the return of the 118th Observation Squadron to Brainard Field from their fifteen days encampment at Mitchel Field, activities in this region have taken an added interest. The majority of the commercial fliers are members of that organization, and, therefore, the call to arms rather depleted the Hartford supply of pilots. Flying DH's and O-2's gave the boys a real treat, after months of Jenny and Standard "coaxing".

Visiting fliers have been dropping in to see Hartford's revamped airport in such quantities that a complete check is hard to keep. They included, however, the Hon. Edward P. Warner, in his special Vought, a flock of four Martin Bombers, a flight of five Navy VU seaplanes a Wasp engined Apache and numerous planes from all points of the compass. They all say very kind things about our field and equipment.

While Hartford's airport is the result of the organized interest and efforts of a number of men, to Capt. Clarence Knox must be given a very large part of the credit. He has put forth untiring effort in supervising many of the most important developments of the Airport, along both military and civilian lines.

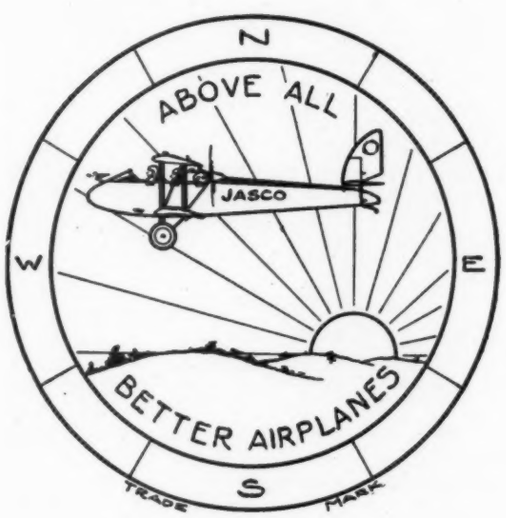
The huge re-built Remington-Burnelli airliner performed well when flight tested last week. A Waco, equipped with pontoons by P. H. Spencer, recently took-off for a barnstorming cruise of the shore resorts. Two Navy Douglas torpedo planes have taken the place of the Army DH equipment used by Dr. Warren in his cloud-dispersing experiments.

Pilots Thompson and Wells continue to push their Air Mail planes through on good schedule, in spite of a long run of the dirtiest kind of flying weather. To see them push-off for New York at night, into the blackness of a storm, without ground lights to guide them, is a lesson in the progress of aviation.

San Antonio, Tex.

Through special permission from President Calles of Mexico, C. M. Brayton and Bert Pidcoke, Houston fliers, left San Antonio recently in two planes for the City of Mexico. The course of the flight is over a proposed air mail route between Mexico City, San Antonio and Houston. The pilots are carrying letters from Mayor Oscar Holcombe, of Houston, to the mayor of Mexico City. The planes have been named "Miss Houston" and "Senorita Mexico". They are specially built Standards, with 180 hp. Hispano Suiza engines. Stops are being made along the route at all large cities and an attempt is being made to arouse interest in the proposed air mail line.

J. B. Lievre, mechanic in the San Antonio Air Intermediate depot at Duncan Field, has been flying to work every morning for the past few months. He is the first person in San Antonio to adopt this means of transportation between home and business. He uses an OX-5 Standard plane and takes off each morning from his field on the South Loop. The distance between this and Duncan Field is 7 mi.



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DAYTON OHIO

ALLIED: JOHNSON AIRCRAFT CORPORATION; JOHNSON FLYING SERVICE

Chicago, Ill.

By Otto Klein

Stanley and Edgar LaParle have flown two of the Chicago Aeronautical Service Company's planes to What Cheer, Iowa, and from there to Decatur. The following day they flew to Grand Rapids, filling exhibition and passenger carrying contracts. The Aeronautical Service has obtained some very fine photographic contracts lately, and their photographs will be on exhibition at the International Photographers' convention to be held in Chicago soon. The company reports the photographic business still very good. Two weeks of fine Summer weather helped them complete their work in record time.

Ernest V. Thompson has purchased a Lincoln Standard Tourabout from the Heath Airplane Company. LaPierre Cavender has sold his Jennie, and John Huber has acquired an OX-5 Standard. Ham, well known at Ashburn Field, had a special OX-5 job built up by the Heath Airplane Company. The plane is being set up at this writing. The Heath Company is enjoying a very good season in their flying school. They have at present 18 day students and 20 evening students, who take their flying instructions on Saturdays and Sundays.

Considerable publicity is again given the project of establishing a down-town airport near the lake front at 22nd Street. The Chicago Air Board is giving the matter serious consideration and it is hoped that their efforts will not only result in a flying field at 22nd Street, but also on the newly filled-in land at the North end of Lincoln Park, which is close to one of the city's finest hotel and shopping districts.

Lillian Boyer and Bill Brook are busy again with their auto-to-plane change at the Central States Exposition at Aurora, Ill. The old trick is still as sensational as ever, and never fails to draw a large crowd of spectators.

Chanute, Kansas

By Noel Owens

This has been a very busy season for local pilots. Planes in the air are an every-day occurrence and on Sundays they keep it exceptionally well churned up.

O. E. Dickerhoff finally acquired another Canuck and is figuring on Swallows again. John Spielman soloed lately and Barnes has some more students near the solo stage. Ray Richmond and Nubs White have been trying wing-walking and have got away with it (so far).

Two new LS-5's from the University School of Aeronautics, Houston, Tex., were here lately and worried the business district by playing tag with the roofs.

Shannon and Wert of Parsons, with a new Waco, Sloan of Oklahoma, with a JN-4D and Neff and Tobey, of Iola, with a Hisso-Standard, were recent visitors. Wert took most of the lift out of the local air when he zoomed up under Barnes and Spielman in a Standard. Or, at least they thought so.

Company Charters Plane for Mapping

When word came on Aug. 26 to the Chicago Aeronautical Service that their services were desired immediately for the making of a 50 mi. mosaic map, of the territory between Parkin and Newport, Ark., the absence of the mapping and photographing plane in Grand Rapids, Mich., created a problem.

One of the company's planes left on Aug. 21 for What Cheer, Iowa, in an advertising campaign, and the other, chartered by the West Michigan Fair for parachute jumps, passenger service and stunts, will be absent two weeks in Grand Rapids.

The company met the emergency, however, by chartering a Yackey Transport, equipping it with an Eastman K-5 aerial camera, and leaving on time with R. W. Mack, pilot and J. R. Stiles, photgrapher, for the Stiles Airport, three miles northeast of Memphis, Tenn. The scale of the map is to be 1,000 ft. to the inch. It will be finished in the laboratories of the company's transportation building.

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New Clipped wing Standards with used OX5 motors installed	$800.00
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New Clipped wing Standards with 150 H.P. Hisso motors installed	1500.00
New Regular size Standard J.I. Airplanes with Govt overhauled OX5 motors installed	900.00
New Regular size Standard J.I. Airplanes with new OX5 motors installed	1200.00
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LAMBERT-ST. LOUIS FLYING FIELD, ANGLUM, MO.

Jake's Airport, Towner, N. D.

By J. Bertram

The other day, Pilot Harris took up Reggie, a Ford mechanic, for a little spin, giving him a few verticals and spins. Reggie came down groggy and did not feel as chesty as he did before he went up as to what he could stand.

C. Smith of Pipestone, Minn. with his C-6 Standard, has been laid up for several weeks on account of engine trouble.

A district golf tournament was held across the road from our field on Sunday, Aug. 29. On this day we took up several passengers to see the sights from the Air.

The Waco that passed over our field a few weeks ago headed for the Canadian boarder failed to stop on its return trip, and not even dropped us a bottle, as we are now singing how dry we are.

J. Bertram attended the Edsel Ford Tour at St. Paul returning with much enthusiasm for the success of the airplane for commercial use in the near future.

The manufacturers of airplanes on this Tour failed to take advantage of the opportunity to advertise and show their wares to the many interested folks. We were much disappointed in not being able to see the little Driggs flivver which got only as far as Hastings, Minn. and was forced down on account of broken crank.

Stop at our airport when passing this way.

Over Crater Lake by Airplane

By R. A. Shelton

A trip over Crater Lake by airplane! The latest achievement of commercial aviation in the Pacific Northwest! Only a few years ago it was considered quite a trip and required many hours of hard travel on horseback and on foot for the nature-loving tourist to treat himself to a view of this beautiful lake of Southern Oregon, situated in the crater of an extinct volcano over 7,000 ft. above sea level.

However, today, good roads make the trip only a matter of a few hours of comfortable driving from the city of Klamath Falls, Oregon, and, although the view has in no way become less inspiring, the novelty of the sight is wearing off. But the Klamath Air Service Company, a newly founded commercial airport of Klamath Falls, comes to the rescue of the faithful old lake and offers, for a reasonable fare, a trip over this natural wonder by airplane.

A Waterhouse Cruzair powered with the Wright J-4 is used for the trip, leaving Klamath Falls and flying the 55 miles North over picturesque Klamath Lake, spending 20 min. over Crater Lake and the Crater National Forest, then returning to Klamath Falls, over the Williamson River valley. The entire trip requires only an hour and a half in the air.

Geneva, Switzerland

A new aerial Alpine record was made on Sept. 14 by the French aviator, Lieutenant Thoret, when he flew over Mont Blanc three times, taking an average of two hours for each flight. Although hindered by air disturbances on the first trip, Lieutenant Thoret succeeded in almost reaching the summit, and dropped two parachutes with loads of 80 lb. each a slight distance from awaiting guides. The material was for an observatory there.

During the second trip, the parachutes landed at the feet of the guides, but, owing to snow and hail, Lieutenant Thoret was not able to land the small instruments. After the third flight, Lieutenant Thoret flew over the lower glaciers at Chamonix, the flight being watched by many tourists.

St. Louis, Mo.

In a report made Sept. 3 by W. J. MacKenzie, airways superintendent, to William P. McCracken, Jr., Assistant Secretary of Commerce for Aeronautics, the establishment of nine 40 acre emergency landing fields and the installation of twenty-four 2 ft. revolving beacons are recommended, along the St. Louis-Chicago air route.

=*ANNOUNCING*=

The New Woodson Mail and Sport Plane.

Divided axle with eight foot tread.

Adjustable stabilizer and vertical fin.

Steel tube fuselage and steel tail group.

Excellent visibility.

Woodson Sport fitted with Wright E-4.

Carries a pay load of 800 pounds and seats 5 people.

A change can be made to any of the following motors in 45 minutes: Salmson, Hisso, Wright J-4, Curtiss K or C-6, OX-5 or Liberty six. The power plant comes off as one unit, with radiator, oil tank, etc., attached to the mount.

Performance.

With Salmson,		With 180 Hisso,	
Maximum speed	135 M.P.H.	Maximum speed	125 M.P.H.
Minimum speed	45 M.P.H.	Minimum speed	40 M.P.H.
Pay load	800 lbs.	Pay load	700 lbs.
With Wright J-4,		With OX-5,	
Maximum speed	130 M.P.H.	Maximum speed	90 M.P.H.
Minimum speed	42 M.P.H.	Minimum speed	38 M.P.H.
Pay load	800 lbs.	Pay load	350 lbs.

WOODSON ENGINEERING COMPANY
BRYAN, OHIO

The report states that the landing fields should be situated 30 mi. apart, each being lighted at night by 20 white lights evenly spaced, five on each side of the field, so as to permit safe landings from any direction. The distance between revolving beacons was recommended as 10 mi.

The St. Louis-Chicago airway is about 277 mi. long, and takes in Springfield and Peoria in Illinois. It is now used by the Robertson Aircraft Corporation, which operates two planes a day over the route, carrying mail, passengers and freight.

According to plans of the airways officials, whenever air traffic on the route warrants, the revolving lights, operated from 50 ft. metal towers, built on a concrete base, will be kept in service during all hours of darkness. They will work automatically, shooting beams upward strong enough to be visible in favorable weather for a distance of 50 mi.

The Illinois Model Aero Club

The Illinois Model Aero Club was founded in January 1912 to study and promote the science of aviation through the medium of the model airplane. This club was one of the first of its kind in the world. Since its organization in 1912, it has steadily progressed until today it is the foremost club of its kind in the World, holding the ten recognized World's records for rubber driven model airplanes.

It was due to the earnest research work done by the members, that the club was able to become owner of the Villard Trophy, which was offered for competition during the years of 1916-1917. The competition was to continue through the year of 1918, but, due to the War, it had to be discontinued. In 1919, the National Model Airplane Competition was resumed. This year the club won the trophy for the third time, becoming permament owner of the trophy.

Though there was no national competition from 1920 to 1923, the members kept the research work and improvement up, which is directly responsible for the success of the club in the Mulvihill Trophy Contests of 1923, 1924, 1925. In the contest at St. Louis in 1923 the club was undisputed winner over a very large field. The club members won all eight prize places in the contest. The club was very near as successful at the 1924 meet at Dayton. It won the trophy and all prize places. It was at this meet that Robert Jaros, one of the club's foremost members, established the World's record of 10 min. 14.4 sec. This record was established under very adverse conditions.

In 1925, at New York, the trophy was again won by the club against a very expert field. The New York meet was the most interesting contest of the three, as the field of contestants consisted of the most expert talent collected on the field for a model meet. The club was successful because of the persistent progress which the members had made in the study of model design and construction.

The Illinois Model Aero Club has been the center of model airplane development since 1916 and is looked to by all the present clubs for information on design and construction and flying of rubber driven model planes. This information is gladly given to those who inquire for it, as the club was organized "to popularize and study the art and science of aviation through the model airplane."

The address of the club is: Illinois Model Aero Club, Auditorium Hotel, Chicago Ill,

Lawrence, Kansas

By John M. Allison

D. E. Ray, an employee of Chris Hunsinger, Chrysler dealer, went to Chilicothe, Mo., Aug. 28 and flew his Hisso-Jenny back Sunday, landing on the new flying field five miles North of Lawrence, near the proposed Victory Highway cut-off. This field will be used by the Allison Airplane Co. for all flying. It has a mile run North and South.

The Allison Airplane Co. is busy getting installed in its new home, Fourth and Perry Streets, North Lawrence. High lift wings are being turned out as quickly as possible.

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Convention of Seaplane Operators

A demonstration of seaplane flying is being arranged for Sept. 25 under the auspices of the Reserve Fliers Association an organization made up of former pilots and men interested in aviation, with the co-operation of the New Haven Air Terminal, Inc. who have placed their seaplane facilities on the New Haven Harbor, New Haven, Conn., at the disposal of the Association.

The main idea of the convention is to get all the people that have a wholehearted interest in seaplane flying together by some comprehensive event, so that they may know each other better and be able to take a unified stand in this development of commercial aviation and show the public the badly neglected possibilities that are open to the business man, the sportsman and the commercial aircraft operators, in seaplane flying along our Atlantic Coast. The events of the meet are as follows:

Event A—"On to New Haven"
Event 1—Race for OX5 and OXX6 motored seaplanes.
Event 2—Race for Hispano, Cor K6, Aeromarine or similar engined seaplanes.
Event 3—Speed boat race.
Event 4—Load Contest. Cup will be given to plane taking off with full "Pay Load" attaining height of 1000 feet and returning to starting line in the shortest time.
Event 5—Race for flying boats only. Single motored of under 195 hp.
Event 6—Race for U.S. Service Seaplanes.
Event 7—Race for Seaplanes with motors of over 200 hp.

The "On to New Haven" Race with 1st prize of $100. and a handsome cup, 2nd prize of a barrel of aviation engine oil and cup, 3rd prize of $25. and cup is open to all civilians. The prizes will be awarded to the three seaplanes that have arrived from the greatest distances. Distance covered will be measured by the most direct water route from point of departure as shown on U. S. Charts. In event of two planes arriving from the same distance and causing a tie for any of the first three positions, the one that has made the best time will be the winner. The event closes at NOON Eastern Standard Time, September 25th 1926.

A handsome cup will be awarded to the U. S. Service plane that arrives from the greatest distance. The races will be about 20 miles over a triangular course that is entirely inside the New Haven Harbor.

The rules, method of starting and finishes will be explained to all contestants before the races. The direction of the wind on Sept. 25th plays an important part in the handling of these events.

All competing planes will be assigned a number which must be displayed in a conspicuous manner.

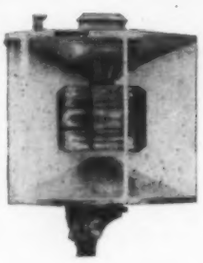
Entries for all events close at noon today, Sept. 20, 1926.

United States Air Forces

Kelly Field, Tex.

Before a large audience of people from San Antonio and the personnel of Kelly Field, three night parachute jumps were made recently by enlisted men of the 10th School Group Parachute Dept. Privates C. S. Robbins, 43rd School Squadron, and F. B. Durchenwald, 68th Service Squadron, were the two men to jump the first night. Lieut. J. I. Moore piloted the plane that took Robbins up, while Lieutenant Griffith took Durchenwald off the ground. It had been planned that the planes would stay close together in the air, thus allowing the two men to jump simultaneously in order to keep the searchlight on both until they reached the ground, but Private Durchenwald became slightly anxious to leave his plane and took off a little too soon.

The light played back and forth on the two jumpers and then was fixed on Private Durchenwald, as it appeared that he was drifting off the field. Private Robbins landed on the



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Northern California—W. L. Lamkin, Porterville, California
Michigan—Niles Airways, Niles, Michigan
Indiana—Captain J. A. Yonge, Gary, Indiana
Illinois—Sievert Aircraft Corp., Chicago
Oklahoma and Texas Panhandle—P. R. Braniff, Oklahoma City.

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flying Field, while Durchenwald came down on the side of Hangar No 4 and dropped his harness to the ground.

On the following night, Capt. Burdette S. Wright took Private C. C. Fenner, 40th School Squad., off the ground for the third jump and the searchlight succeeded in keeping track of him all the way to the ground. The first two jumps were made at 8:00 p. m., and the third about 9: p. m. All three jumps were made from an altitude of 3,000 ft.

Gunnery Practice at Luke Field

A new aerial gunnery record for the Hawaiian Department was recently made by the officers of the Sixth and Nineteenth Pursuit Squadrons located at Luke Field. Regulations require that pursuit pilots engage in two different courses of firing. The first course consists of firing the fixed front guns at a ground target, and in the second course the same guns are fixed at a sleeve target towed in the rear of another plane. The officers of the 19th Squadron nosed out their rivals in the Sixth by a total of 3%, the final squadron average being, 19th Squadron 69.75% and 6th Squadron, 66.75%. The only consolation to the 6th Squadron was the fact that a 6th Squadron pilot had the high individual score for the firing. The target for the ground firing was target "C" Rifle Marksmanship (6 ft. by 10 ft. paper target) inclined at an angle of 45 deg., to the ground, each hit on this target count one point: The firing was done with four different methods of approach, the same number of shots being fired with each type, the methods of approach are as follows:—

1st Phase. Approach from front, dive at 45 deg. angle.

2nd Phase. Approach from left, do wing over (90 deg. turn) and drive and 45 deg. angle.

3rd Phase. Approach from left, do wing over and dive at 45 deg. angle.

4th Phase. Approach from rear, pass over target do a 180 deg. turn and dive at 45 deg. angle.

Firing at the towed sleeve target is more difficult than firing at the ground target as this target (a sleeve 15 ft. long, 5 ft. wide at the throat and 3 ft. at the taile) is towed behind an airplane traveling at about 75 m.p.h. The attacking planes can attack from any angle commensurate with safety to the towing plane. Attacks are generally made from the rear at an angle of about 45 deg. angle to the course of the towing plane. Hits on the center thied of the target counts five, all other hits count three. As each bullet makes two holes in the target the total hits must be divided by two to give the correct score.

In order to appreciate the skill required in this type of firing it must be remembered that the fixed guns are aimed by pointing the entire airplane at the target and the slightest movement of the control stick or rudder bar will throw the sights off the target.

The score follows:—

Pilots	*Sqdn.*	*Ground target*	*Aerial target*	*Average*
Lieut. J. K. Cannon,	6th	98.88%	74.1 %	86.49%
Lieut. D. F. Stace,	6th	93.88%	75.1 %	84.49%
Lieut. C. L. Chennault,	19th	86.88%	78.39%	82.63%
Lieut. H. C. Wisehart,	19th	90.2 %	75.00%	82.63%
Capt. H. M. Elmendorf,	6th	91.66%	71.9 %	81.78%
Lieut. C. K. Rich,	19th	71.11%	69.00%	70.00%
Lieut. P. H. Prentiss,	6th	75.83%	57.08%	66.46%
Lieut. W. L. Wheeler,	19th	71.66%	59.2 %	65.43%
Lieut. O. P. Gothlin,	19th	57.33%	63.55%	60.44%
Lieut. G. L. Mc Neil,	6th	77.49%	37.73%	52.61%
Lieut. M. N. Clark,	6th	29.44%	69.40%	49.42%
Squadron average	6th	72.21%	61.28%	66.75.
Squadron average	19th	71.78%	67.72%	69.75.

Lighter-Than-Air Training

The following officers are to take lighter-than-air training at the Balloon and Airship School, Scott Field, Ill. The course begins Sept. 15, 1926, and ends Aug. 15, 1927.

First Lt. W. D. Buie, Second Lts. L. M. Rouch, R. R. Selway, H. G. Davidson, A. J. Yauger, J. O. Kidwell and L. P. Holcomb.

Recommended as Flying cadets from Civilian status: Crowley, C. F., Miller, F. G. and Schubert, F. T. Training in grade: Hunton, Staff Sgt. J. E.

Testing Radio Compass Stations

Information as to the practicability of using shore radio compass stations as navigation aids to aircraft was obtained as a result of a test recently conducted by an F-5L seaplane from the Hampton Roads Naval Air Station.

The plane left the Hampton Roads base in the afternoon and made a circuitous trip for the experimental flight. Radio stations located at Poyner's Hill, Virginia Beach and Hog Island were used for the test, while the route followed was Hampton Roads, Old Point Comfort Light, Tue Marsh Light, New Point Comfort Light, Cape Charles Light, Cape Henry Light and back to Hampton Roads.

The course steered was not on a straight line between the lights nor was a fixed altitude maintained. Messages were sent frequently to the radio stations for compass bearings, and the positions obtained were excellent when crossing the lights, no positions being out by as much as a mile. When the plane was in transit between the lights, however, positions were varied, some being as far off as two miles.

Army Air Orders

Following officers, Air Corps Res., to active duty from planes named, to Brooks Field, reverting to inactive status Mch. 8: Sec. Lieuts. Kenneth Keith Ayer, East Lynn, Mass., Albert Elliott Merill, Seattle, and Russell Earl Robertson, Cambridge.

Sec. Lieuts. Robert R. Selway, Jr. and John P. Kidwell, Air Corps, relieved from assignment and duty Scott Field, and will report to com. Air Corps Bal. & Air. Sch. Scott Field.

First Lieut. Walter D. Buie, Air Corps, Kelly Field, to Scott Field.

Following officers, Air Corps, upon completion of tour of foreign service, to stations indicated: First Lieuts. Edward W. Raley, Langley Field, Edward M. Robbins, San Diego, Leo F. Post, Langley Field, Bernard J. Tooher, Brooks Field, Robert H. Finley, Kelly Field, Howard K. Ramey, Kelly Field, LeRor A. Walthall, Brooks Field and Hugo P. Rush, Brooks Field.

Capt. Charles Phillips Kerr, Air Corps Res., West Newton, Mass., to active duty McCook Field, reverting to inactive status Sept. 26.

Capt. Rudolf Leonard Gaalaas, Air Corps Res., Stillwater, Mass., to active duty, Chanute Field, reverting to inactive status Sept. 26.

Sec. Lieut. Victor Emmanuel Showalter, Air Corps, Res., Dayton, to active duty Scott Field, reverting to inactive status Sept. 26.

First Lieut. John Blakeley Pope, Jr., Air Corps Res., Dallas, to active duty Post Field, reverting to inactive status Sept. 26.

Capt. Leo James Griffin, Air Corps Res., Atlantic, Mass., to active duty Langley Field, reverting to inactive status Sept. 24.

Capt. Raymond Starbuck Dickinson, Air Corps Res., Los Angeles, to active duty Coronado, reverting to inactive status Sept. 26.

Capt. Joseph Charles Boyarsky, Air Corps Res., Charlotee, N. C., to active duty Middletown, Pa., reverting to inactive status Sept. 24.

First Lieut. Aubrey Fred Diamond, Air Corps Res., Pittsburgh, to active duty Middletown, reverting to inactive status Sept. 24.

Maj. Paul T. Beck, Air Corps, designated as assistant commandant Air Corps Tech. Sch., Chanute Field.

Vice Capt. Charles B. B. Bubb, Air Corps, relieved as assistant commandant Air Corps Tech. Sch., Chanute Field.

First Lieut. James C. Shively, Air Corps, Kelly Field, to San Francisco, sailing on transport Jan. 13 for Hawaiian Dept.

First Lieut. Raymond R. Brown, Air Corps, Bowman Field, to New York City, sailing Dec. 22, via government transportation for Hawaiian Dept.

First Lieut. David R. Stinson, Air Corps, Middletown, Pa., to New York City, sailing on transport Dec. 2 for Canal Zone.

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2. Each design will be accompanied by a graduated scale of prices for which the designer is willing to construct any or all of the aircraft in lots of one (1), three (3), ten (10), twenty-five (25), fifty (50), seventy-five (75) and one hundred (100), and also a price for which the design in whole or in part will be sold to the Government.

3. All bids with accompanying designs will be submitted to the Bureau of Supplies and Accounts, Navy Department, Washington, D. C., and must be placed in the mail not later than December 10, 1926. No bids or designs mailed thereafter will be considered. Schedules giving detailed information as to the conditions and requirements of the competition and as to the various features and characteristics to be developed, listing specifically the respective measures of merit, will be supplied upon application to the

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PUBLISHER'S NEWS LETTER

Six national air races have been held since the War and it is time that certain fundamental ideas are established and recognized. At Mineola, Detroit, St. Louis, Dayton, Garden City and Philadelphia there was experience gained that ought to provide guides for the future. But, unfortunately, the circumstances under which the race meets are secured and held do not permit of any continuing policy or profiting by experience. Each city must, it seems, make such mistakes as it will, incur losses and end wiser but poorer as the result of a laudable effort to make its people and the country at large more "airminded".

* * * *

Philadelphia made a brave effort to avoid the criticism of the past races and put on a series of races that would be helpful to the commercial development of aircraft. Money was spent with a generous spirit, expert advice was available, the needed cooperation secured—and then the rain came and spoiled all the plans, just as wind wrought havoc with the same races last year at Garden City. Whatever might have been the outcome, if the rain had not come in unprecedented inches, the fact will remain that either on account of the rain or for other reasons, the public did not take a great interest in the 1926 air races.

* * * *

The falling off of attendance at air races should be examined with an eye to the future. Undoubtedly, the St. Louis races were the largest and most successful ever held. Here, they had all the elements that make for public interest—novelty, speed, world's records and variety. Everyone wanted to see the airmen surpass all speed hitherto known. They came in multitudes and from the point of view of the crowd, the meet was a great success. But it was also a financial failure. The hitch in St. Louis was the cost of the preparation of a new flying field which, while a necessary requirement of air races is not properly an expense but should be listed as a civic asset.

* * * *

Since St. Louis, the attendance for one reason or another had dwindled to a point where it may well be asked—Do the public want air races? The answer appears to be that they want to see records smashed, lives endangered and new aircraft. Without these, the great crowds that have attended the air meets in the Middle West have been attracted by stunting, Jenny races and the flying of local pilots. There is very often a misconception as to what the aeronautical people want to see and consider of interest and what attracts the public.

Races that require formulas to determine the winners and contests that are processions of aircraft around pylons are definitely of interest only to the initiated. Speed races such as the free-for-all pursuit plane race in Philadelphia with many entries and a short course are the most popular from the public's viewpoint. But it is difficult to hold more than one of these during any meet.

* * * *

Two plans seem to be practicable. Condense air meet schedules into two or three days; have something happening every minute from early morning until sunset; make it possible for the public to see the whole show in the one or two days that it takes from its business affairs. Make the races short, snappy and exciting. The other plan is that followed abroad. Abolish races as a public spectacle and make them technical exhibitions where those who are interested in aeronautical development are invited to witness the trials and frankly admit that air races are not races but contests against speed. Such of the public as are interested may come and see the trials, but they are not charged for the privilege. Probably the latter plan is lacking in the American spirit of local pride but it has come about as the result of long experience abroad.

* * * *

Next year the logical place for the races will be on the Pacific coast, if money can be found there that will undertake the very difficult task. The aerial activity throughout the West is perhaps greater than in any other section of the country. If they want the races, the airmen there should have them for 1927.—L.D.G.

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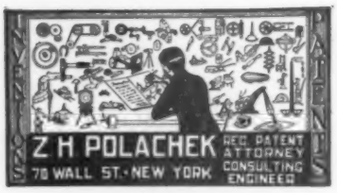

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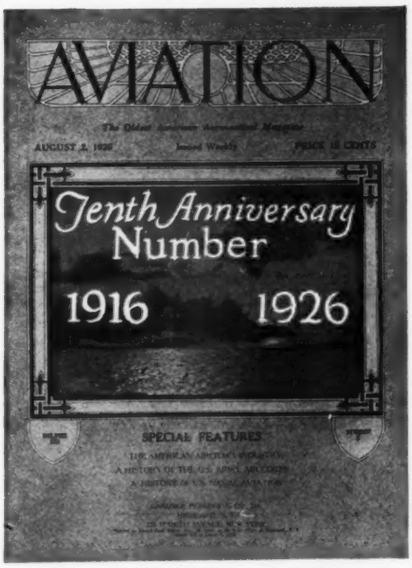

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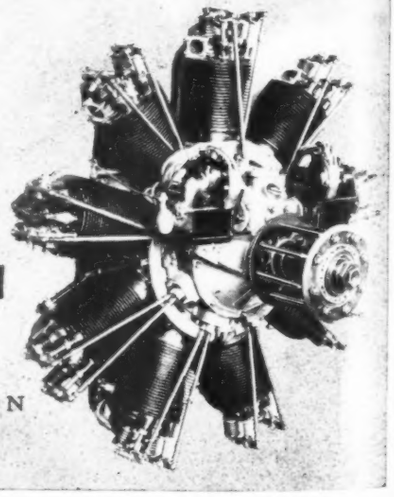

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